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Measuring Organizational Member Involvement In Physical Activity Coalitions Across the United States

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MEASURING ORGANIZATIONAL MEMBER INVOLVEMENT IN PHYSICAL
ACTIVITY COALITIONS ACROSS THE UNITED STATES

by

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Submitted in Partial Fulfillment of the Requirements

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DEDICATION

To my wife Meghan and two children Mia and Jake whose love and support mean the world to me, and to the memory of my father Murray B. Bornstein

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I would like to thank my advisor Dr. Pate for his guidance over the past several years and for the unique opportunities he has provided. I would also like to thank Dr. Beets, Dr. Blair, and Dr. Saunders for their valuable contributions to this dissertation.

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ABSTRACT

Physical inactivity has been labeled a global pandemic with enormous economic, social, environmental, and public health consequences. The vast majority of American adults and youth are insufficiently physically active. Increasing population-levels of physical activity (PA) requires broad social and environmental change. PA coalitions provide the structure through which such broad change can be achieved. An extensive literature on health-based coalitions suggests that coalition success is impacted by coalition members. Coalitions are generally comprised of member organizations. Little is known about the characteristics of PA coalitions and less is known about organizational member involvement in PA coalitions. The purpose of this dissertation was to develop a survey instrument for measuring organizational member involvement in PA coalitions. The dissertation also provides descriptive characteristics of local-, state-, and national-level PA coalitions across the United States. Additionally, the dissertation provides descriptive characteristics of organizational members of PA coalitions across the U.S. Finally, the dissertation examines whether or not there is an association between organizational member involvement and physical activity coalition success as perceived by representatives of member organizations. The dissertation used a cross-sectional design and applied both qualitative and quantitative methods.

The objective of the first study was to expand our knowledge of factors related to organizations' decisions to join and remain committed to the coalition that developed and launched the U.S. National Physical Activity Plan (NPAP). Qualitative semi-structured

phone interviews were conducted with fourteen key informants representing thirteen of the NPAP coalition's partner organizations. Five primary factors for organizational membership emerged: (1) Strategic Alignment; (2) Organizational Alignment; (3) Providing Input; (4) Seminal Event; and (5) Cost/Benefit Ratio.

The second study was conducted in three phases and resulted in a psychometrically sound instrument for measuring organizational member involvement in PA coalitions. The study's three phases were: (1) Development of a draft survey based on the qualitative analysis of organizational members from the NPAP coalition; (2) Assessment of the content validity of the draft survey to produce a final survey; and (3) Conduct of an exploratory factor analysis to assess the final survey's psychometric properties. The final survey was administered to 120 individuals who represent organizations that were members of PA coalitions across the U.S. The exploratory factor analysis yielded a three-factor model with the following subscales: Strategic Alignment, Organizational Alignment, and Providing Input. Each of the survey's three subscales demonstrated high internal consistency reliability as follows: Strategic Alignment (Cronbach's alpha = 0.94); Organizational Alignment (Cronbach's alpha = 0.83); and Providing Input (Cronbach's alpha = 0.88). Each of the subscales also demonstrated sufficient construct validity, being significantly positively correlated with two previously validated subscales (Coalition Satisfaction, Coalition Outcome Efficacy) for which a positive correlation should theoretically exist.

The third study described the characteristics of PA coalitions and their organizational members, and investigated the association between factors for organizational membership and coalition success. Overall, PA coalitions were found to

be working in a diverse range of settings including: Schools (78%); Built environment (58%); Workplace (58%); and Public Health (53%). Those coalitions were reported to have pursued a broad range of initiatives including: Advocacy to promote active living (78%); Changes to/formation of policy (71%); and Expanding their network of partners (52%). Most types organizational members of PA coalitions were Government agencies (48%) or Non-profit organizations (40%). Organizational members worked across a variety of settings including: Public Health (41%); Education (21%); Health Care (15%). Overall, mean scale scores for Strategic Alignment, Organizational Alignment, and Providing Input were high for all types of organizational members though some differences by organizational member type were noted. Factors for organizational membership were associated with coalition success. Pooled t-tests revealed statistically significant differences between each factor for organizational membership (Strategic Alignment, Organizational Alignment, and Providing Input) and high and low levels of perceived coalition success (Coalition Satisfaction, and Coalition Outcome Efficacy).

In summary, this dissertation produced a psychometrically sound survey instrument for measuring key aspects of organizational membership in PA coalitions. This project shows that building and maintaining successful PA coalitions may hinge upon the ability to understand and demonstrate how organizational members benefit from: strategically aligning with the coalition; aligning with the coalition's other organizational members; and providing input on the coalition's activities.

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CHAPTER 1

OVERALL INTRODUCTION

The *Surgeon General's Report on Physical Activity and Health* and the *Physical Activity Guidelines Advisory Committee Report* are two landmark documents summarizing over five decades of evidence supporting the health benefits of regular physical activity[1, 2]. Together, these documents describe the strong inverse association between physical activity and all-cause mortality, cardiovascular disease, hypertension, cancer, and Type 2 diabetes mellitus. Additionally, these documents summarize evidence showing that regular physical activity promotes muscle strength and joint function, relieves symptoms of depression and anxiety, reduces body fat, protects older adults from falls, and improves overall quality of life.

In 2008 the U.S. Government released the first federal guidelines for physical activity[3]. These guidelines specify the types and amounts of physical activity Americans should regularly accumulate in order to realize the health benefits of activity. According to the guidelines, American adults should obtain 150 minutes per week of moderate-intensity aerobic activity, or 75 minutes per week of vigorous-intensity aerobic activity, or some equivalent combination of moderate- and vigorous- intensity aerobic activity, performed in bouts of 10 minutes or more[3]. The guidelines provide additional recommendations specific to Children and Adolescents, and Older Adults.

Despite the overwhelming evidence on the relationship between physical activity and health and existence of federal physical activity guidelines, the physical activity

levels of Americans remains perilously low [4, 5]. When measured objectively through the 2003-2004 National Health and Nutrition Examination Survey (NHANES), the number of American adults (20-59 yrs) meeting physical activity guidelines was estimated at 3.5%[4]. 2003-2004 NHANES estimates of the percentage of American youth meeting the youth guidelines were 42.0%, 8.0% and 7.6% for boys and girls ages 6-11 yrs, 12-15 yrs, and 16-19 yrs respectively [4].

The relationship between physical activity and the social and physical environments in which individuals live, work, commute, learn, and play is well documented[6-8]. Not surprisingly then, attempts to increase population-levels of physical activity through interventions targeting individual-level behavior change have been largely insufficient[9]. Therefore, increasing population-levels of physical activity requires approaches focused on policy, systems, and environmental change. Changes to policies, systems, and environments cannot be achieved by government alone[10, 11]. Such changes may best be accomplished through collaborative efforts involving diverse groups of stakeholders, such as coalitions [11, 12].

Coalitions focused on issues of public health grew out of this recognition that individual behavior is inextricably linked to the environment, and that health promotion should therefore be conducted at the community level [13]. Historically, health-based coalitions have not been focused on physical activity. Instead, these coalitions have addressed public health issues such as asthma[14], tobacco use[15], underage drinking[16], and type II diabetes[17, 18]. Over the last twenty years federal health agencies as well as private foundations have invested hundreds of millions of dollars in coalition development as a health promotion intervention[19-21].

Subsequent to recognizing the importance of coalitions in public health and the funding to support their development, came calls to evaluate their effectiveness[22]. However those evaluation efforts have fallen short. There are now thousands of health-related coalitions in the U.S. and only 15% of them are well documented with details about their structure and functioning[20]. Conceptual frameworks identifying the factors related to the manner in which coalitions function have been proposed, however no dominant model exists[20, 21, 23-25]. Furthermore, the majority of instruments developed to measure these factors lack validity and reliability[25, 26]. Overall, the existing literature on factors related to effectiveness of health-based coalitions has been characterized as having a dearth of empirical information[26, 27]. Even less is known about coalitions focused specifically on physical activity.

Consistent across many frameworks for describing the characteristics of health-based coalitions and how they function are factors related to “member involvement”[21, 23, 28]. Factors such as *member participation*, *member recruitment*, *member satisfaction*, and *member benefits*, are thought to be potentially important determinants of coalition success. Interestingly, similar factors have been proposed in measuring strategic partnerships in the for-profit sector[29, 30]. However, these factors have yet to be well-defined or well-measured[26] contributing further to the dearth of empirical information on health-based coalitions.

To address the gaps in existing literature on health-based coalitions generally, and physical activity coalitions specifically, this dissertation takes a cross-sectional approach to better understand member involvement in physical activity coalitions throughout the United States. Based on their review of measurement instruments for health-based

coalitions, Granner and Sharpe recommend integrating qualitative and quantitative data in order to provide a more comprehensive assessment and understanding of coalition development, function, and impact[26]. The purpose of Study One was to qualitatively assess the “organizational members” of the coalition that developed the National Physical Activity Plan (NPAP)[31]. Organizational members were organizations (e.g. CDC, American Cancer Society, American Heart Association) that committed monetary and in-kind support of the NPAP coalition. Using semi-structured interviews with key informants from the organizational members, this study provided insight into the member involvement phenomenon by describing the rationale behind organizational members’ decisions to become and remain members of the NPAP coalition.

Reviews of tools for measuring the characteristics and functioning of coalitions underscore the need to develop valid and reliable measurement instruments[25, 26]. Study Two employed a cross-sectional design to develop and subsequently test the psychometric properties of a survey instrument for measuring organizational member involvement in physical activity coalitions. This was undertaken in three phases. First, a draft survey was developed using experience based on the previously conducted qualitative analysis of NPAP coalition’s organizational members. Second the content validity of the draft survey was assessed in order to produce a final version of the survey that would undergo subsequent psychometric testing. Third, the survey’s psychometric properties were determined after having administered it to individual respondents who represented the interests of organizational members of national-, state-, and local-level physical activity coalitions across the U.S.

There is little-to-no evidence on the factors associated with successful physical activity coalitions. Only one previous study has described physical activity coalitions[32]. That study offered important insights into the characteristics and activities of PA coalitions, but did not include the perspectives of coalition members and did not consider factors related to member involvement. Study Three employed a cross-section design to learn more about two aspects of physical activity coalitions. First this study provided an understanding of organizational members' motives for joining a physical activity coalition and how successful they perceived the coalition to be. Second, this study offered an understanding of the characteristics of physical activity coalitions and their organizational members from the unique perspective of those organizational members.

The studies conducted here provide novel understanding of the member involvement phenomenon in physical activity coalitions. This phenomenon has been repeatedly mentioned in the literature on evaluating health-based coalitions, but until now has yet to be well explicated or well measured. Cumulatively, the three studies conducted here provide in-depth understanding of the member involvement phenomenon and provide a valid and reliable instrument for measuring this phenomenon. Given the lack of information about physical activity coalitions, this dissertation provides important understanding of physical activity coalitions from the perspectives of their members. This information may be helpful in improving the manner in which physical activity coalitions function. In turn, these better-functioning coalitions may improve population levels of physical activity. Additionally, this dissertation may help improve the manner in which health-based coalitions function. The survey instrument developed and tested here may

be an important tool for those seeking to evaluate and improve the outcomes of health-based coalitions.

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CHAPTER 2

MANUSCRIPT 1: FACTORS RELATED TO PARTNER INVOLVEMENT IN DEVELOPMENT OF THE U.S. NATIONAL PHYSICAL ACTIVITY PLAN¹

Abstract

Context: Physical activity coalitions are increasingly forming to meet the demands associated with policy, systems, and environmental change necessary to realize increases in population levels of physical activity. Little is known about what makes physical activity coalitions successful, however evidence from community-based coalitions in other public health domains suggests that factors related to each organization that joins a coalition may explain coalition success or failure.

Objective: The objective of this study was to employ qualitative methods to understand the factors related to organizations' decisions to join and remain committed to the coalition that developed and launched the U.S. National Physical Activity Plan (NPAP).

Design/Setting: Qualitative semi-structured phone interviews were conducted with key informants from the NPAP coalition's partner organizations. Interviews were transcribed verbatim and coded separately by members of the research team.

Participants: Fourteen individuals representing 13 NPAP partner organizations participated in the study.

¹ Bornstein DB, Carnoske CC, Tabak RT, Maddock J, Hooker SP, Evenson, KR. Published in *Journal of Public Health Management and Practice*, 2013, 19(3) E-Supp, S8-S16.

Main Outcome Measures: Analysis focused on key factors explaining why and how partner organizations decided to join and remain committed to the NPAP coalition.

Results: Five primary factors emerged: (1) Strategic Alignment; (2) Organizational Alignment; (3) Provide Input; (4) Seminal Event; and (5) Cost/Benefit Ratio.

Conclusions: Building and maintaining a physical activity coalition with highly committed partners may hinge upon the ability to fully understand how each current or prospective partner perceives it could benefit from strategic alignment with the coalition, aligning with other organizations involved with the coalition, having input with the coalition's activities, participating in important events and products of the coalition, and realizing more overall advantages than disadvantages for participating in the coalition.

Introduction

Lack of physical activity (PA) is a threat to health nationally and globally[1-3] and was recently labeled a global pandemic, with economic, social, environmental, and health consequences[4]. Attempts to increase population levels of PA through individual-level interventions have proven to be insufficient. [5, 6]. Therefore, altering the social and physical environments in which people live, work, learn, commute, and play, so that they all support PA, is required to positively impact population levels of PA.[7]. Such broad social and environmental change requires collaborative efforts amongst stakeholders from a wide range of societal sectors (e.g., health care, education, public health, transportation, industry, media, and sport) to influence policy and practice at community, state, and national levels[1, 8, 9].

Coalitions, formal or informal, provide a structure through which diverse stakeholders can convene to solve critical public health problems[10-12]. Models for

understanding the complex nature of community level public health coalitions have been proposed and are helpful in identifying the myriad of factors that may explain their successful formation and maintenance[11, 13-15]. The factors proposed in existing models of public health coalitions can be encapsulated within three broad categories: the social and political environment surrounding the coalition; the membership and management of the coalition; and the characteristics of each individual coalition partner[12, 16]. Of these three broad categories, the characteristics of each coalition partner may be the least understood and most poorly measured, despite a coalition's success being inextricably linked to these factors[11, 16, 17].

Evidence from the for-profit sector also recognizes the importance of more fully understanding partner-level factors. The field of business administration, suggests that factors specific to each partner organization are critical to understanding why and when partnerships succeed or fail in the for-profit sector[18, 19]. For-profit entities are motivated to engage in partnerships that serve their own self-interest (e.g. competitive advantage in the marketplace) versus more altruistic interests (e.g. improving population health)[19]. Cost/benefit ratio of participation in a public health coalition has been suggested as a potentially important partner characteristic [17, 20, 21] and may be related to self-interest. However the extent to which partners in a public health coalition are motivated to participate for self-serving reasons versus altruistic reasons has not been previously considered.

Given that lack of PA is now considered pandemic[3], and that proposed methods to address this call for coalitions comprised of diverse partners, understanding the factors

related to why a partner would choose to join and remain committed to a PA coalition is needed.

Brief History of the NPAP

As the 2008 Physical Activity Guidelines were being developed[22], an informal coalition began forming in October 2006 to develop the National Physical Activity Plan (NPAP). This coalition included government agencies, non-profit entities, academics, and for-profit corporations. The 2008 guidelines, focused on the types and amounts of PA that *individuals* should accumulate to achieve the health benefits of regular PA. However, there was recognition of the need to develop a national plan that would provide evidence-based recommendations for policies and practices to address environmental changes that would support a more physically active lifestyle. The stated mission of the NPAP coalition was to “develop a National Plan for Physical Activity that produces a marked and progressive increase in the percentage of Americans who meet physical activity guidelines throughout life.”[23]

Initial NPAP funding came from the U.S. Centers for Disease Control and Prevention, which allowed for subsequent recruitment of organizations interested in joining the coalition as an “Organizational Partner” (Supplemental Table 1). Each Organizational Partner (OP) contributed monetary and in-kind support for the NPAP including, but not limited to, a one-time contribution of \$10,000, and in-kind support of an individual representative from their organization to serve on the NPAP coalition’s Coordinating Committee (<http://physicalactivityplan.org/committee.php>). The Coordinating Committee, which also included academic researchers with noted expertise in physical activity and public health, oversaw all aspects of development and launch of

the NPAP. Additionally, the Coordinating Committee collaborated openly with approximately 300 additional individuals (http://physicalactivityplan.org/history/working_groups.php) and organizations (http://physicalactivityplan.org/partners_affiliates.php) who assisted in developing and revising the NPAP's content, but who were not involved in key strategic decisions related to the NPAP.

Over the course of the NPAP's development, multiple organizations were either identified by the Coordinating Committee, or identified themselves through the "Get Involved" page of the NPAP's website for possible inclusion as an Organizational Partner. The goal was to include organizations from the multiple societal sectors represented in the NPAP (e.g., health, education, public health, business and industry, transportation, community design) as OPs or Organizational Affiliates. Some organizations chose to sign on as OPs, while others chose to become Organizational Affiliates or to have no formal affiliation. Exact records for the number and type of organizations contacted and the number choosing to join as OPs, Organizational Affiliates, or not at all, were not collected.

The purpose of this study was to use qualitative methods to understand factors related to OPs' decisions to join and remain a part of the NPAP coalition. Specifically, we wanted to learn (1) why OPs chose to become involved in the NPAP, (2) the process by which OPs made the decision to become an NPAP partner, (3) what each OP's expectations were for being involved in developing the NPAP, (4) why each OP stayed involved with the NPAP, and (5) what effect being an NPAP OP has had on each organization. Understanding the factors related to Ops' decisions to join and remain a part of the NPAP coalition may help inform development and maintenance of state and

local-level PA coalitions within the U.S., and national-level PA coalitions in other nations.

Methods

Study Population and Sampling Methods

The study sample included Coordinating Committee members representing OPs that joined the NPAP coalition prior to its launch in May 2010. The sample was limited to these individuals, given that OPs were the only “members” of the NPAP coalition representing a given organization’s interests, and that the purpose of this study was to learn about why organizations chose to become partners in the NPAP coalition. Therefore, two Coordinating Committee members representing OPs that joined the coalition after the NPAP’s launch were excluded, as were five academic members of the Coordinating Committee with who did not represent an OP. Hence, 18 individuals, each representing a different OP, were invited to participate. Fourteen participants representing 13 OPs (72% response rate) were successfully recruited and completed the study. Additionally, one OP suggested that another member of their organization should be interviewed, bringing the total number of participants to 14.

Data Collection

This study was conducted from January through September 2012 by the Prevention Research Centers at the University of South Carolina and Washington University in St. Louis. All study procedures were approved by the Institutional Review Boards from each university.

Qualitative semi-structured interviews were used to elucidate the key factors explaining why and how OPs decided to become and stay involved in the NPAP

coalition. *Truth and Reality-Oriented Correspondence Theory* guided this study as it is used to illuminate “what’s going on in the real world”[24]. Specifically, we employed *analytic induction* [24], where a priori assumptions about “what’s going on” are generated based upon previous research and/or experience, and then a case study is subsequently conducted to determine whether or not the facts generated from that case study support the a priori assumptions. In this instance, our assumptions addressed OPs’ rationale for joining the NPAP coalition and were informed by literature from the fields of community-level public health coalitions and business administration[14, 16-19]. The assumptions were that OPs’ strategic objectives were closely aligned with the mission of the NPAP and joining the NPAP coalition would positively impact their organization. The interview guide included six main questions, with corresponding probes (Table 2.1).

In order to maintain consistency across interviews, each participant was interviewed over the phone by the same member of the research team trained in qualitative interviewing. Interviews were recorded only after verbal consent was obtained. The range of the length of interviews was approximately 15 to 33 minutes (median 23 minutes). All interviews were transcribed verbatim and coded to remove personal identifiers. QSR NVivo9[25] qualitative data analysis software was used to manage data and assist with data analysis.

Data Analysis

Once transcribed, the interviews were coded using an initial codebook developed a priori by the research team. Coding was conducted by only two members of the research team for consistency. Organizational codes, based on the interview guide questions, served as initial codes for development of a master code list, with additional

codes added throughout the process. The coders used this list to analyze an initial transcript and independently assign codes to sections of the interview text, modifying and adding codes as needed. The coders then discussed the code list, arriving at consensus on any differences on codes or code definitions. This same process was employed for an additional two interview transcripts, further refining and building the master code list. The remaining 11 interview transcripts followed a similar iterative process where codes were added to reflect emerging themes and any differences in coding were addressed with the two coders arriving at consensus.

Results

Our data revealed a range of reasons why OPs joined and remain committed to the coalition that developed and launched the NPAP, with five primary themes emerging:

- (1) *Strategic Alignment*, meaning the strategic initiatives (e.g. strategic plan, mission, vision, goals, objectives, projects, or plans) of the OP were congruent with the vision, mission, and goals of the NPAP coalition.
- (2) *Organizational Alignment*, meaning the OP recognized the importance of aligning with other organizations involved with the NPAP coalition.
- (3) *Provide Input*, meaning OPs expected to lend expertise in developing the NPAP, and/or to ensure that their organization's viewpoints were represented in the NPAP.
- (4) *Seminal Event*, meaning development and launch of the NPAP was a significant event in which involvement was viewed important.
- (5) *Cost/Benefit Ratio*, meaning the OP realized more positive than negative effects from having been involved in the NPAP coalition.

Strategic Alignment

All 14 study participants mentioned their organization's strategic initiatives were congruent with the mission, vision, or goals of the NPAP, evident in statements such as *"this is near and dear to our mission"* and *"it aligned very well with our strategic plan."* Specifically, strategic alignment emerged from:

- Process to join, defined as information related to how and why organizations became involved, and who was involved in the process.
- Process to stay, defined as information related to how and why organizations chose to stay involved, and who was involved in the process.
- Effect of involvement, defined as the impact, positive or negative, that being involved with the NPAP has had on the organization.

Process to join. When discussing the processes their organization went through in deciding whether or not to join the coalition, 13 participants (93%) mentioned strategic alignment. Non-profits, for-profits, and governmental agencies all mentioned strategic alignment as being related to their process to join, highlighting the potential importance of strategic alignment when looking to bring new partners into a coalition. When asked why her organization joined the NPAP coalition, one participant said *"It's definitely part of our mission and our strategic plan. So when we heard that plans were afoot to make a National Physical Activity Plan we felt like it was very important and something that (our organization) wanted to support."*

Process to stay. OPs were never formally asked to recommit to the NPAP (e.g. they were not asked to contribute an additional \$10,000). Most organizations, 16 of the original 18, remained involved at the time data were collected for this study, by

continuing to fund the participation of their representative to the NPAP's Coordinating Committee, and provide additional in-kind support (e.g. hosting in-person committee meetings, promoting the NPAP at conferences and meetings). When asked about their organization's choice to stay involved, strategic alignment once again emerged as a common theme, present in responses from 11 participants (79%). *"Actually, this fits into our current strategic plan because one component of our strategic plan is around supporting national initiatives that support physical education and physical activity. So this actually was a nice complement to our current strategic plan"*, said one participant.

Effect of Involvement. Participants were asked what effect their involvement in the NPAP has had on their organization and what positive or negative consequences have resulted from their involvement. As detailed later, participants indicated no negative consequences from involvement in the NPAP coalition. 12 participants (86%) stated that involvement in the NPAP coalition had an effect on their current and/or future strategic initiatives. One participant reported that being involved in the NPAP has had the effect of elevating the importance of physical activity within their organization; *"I would say in fact physical activity has grown in prominence on our screen over the past couple of years... We've spent probably the past five years really ramping up our positions and our available tools and resources on nutrition and weight loss, but until recently we haven't done the same with physical activity, and I think that perhaps through participation in the plan we have seen this gap and are focusing more on physical activity internally as well."*

Organizational Alignment

Organizational alignment, meaning the OP recognized the importance of aligning with other organizations involved with the NPAP coalition, was viewed as important for

10 of 14 participants (71%). Organizational alignment was present in conversations about OPs' process for joining, process for staying, and effect of being involved in the NPAP. Based upon participant responses, four sub-categories for organizational alignment clearly emerged: (1) alignment as a strategic goal; (2) improved operating efficiency through aligning with others; (3) building new or strengthening existing relationships; and (4) wanting to be associated with other well-known organizations. What was less clear was whether "other organizations" referred only to the OPs, or whether it also included Organizational Affiliates and/or members of sector working groups, which were organizations that worked closely on developing the NPAP, but which did not support the NPAP at the same level as OPs. For example, one participant said *"There were several groups in there that I got to know for the first time that weren't necessarily on the coordinating committee."*

Alignment as a strategic goal. Several participants stated that aligning with other organizations was part of their organization's strategy, making it difficult to disentangle organizational alignment from strategic alignment, and thus leading to the development of this sub-category. The statement *"I mean if we were to say three top reasons (for becoming involved), one would be it aligned very well with our strategic plan, which was to partner with other national entities that are promoting fitness, but not really an organization within 'our' industry"* was typical of participants discussing alignment with other organizations as a strategic interest for their organization.

Improved operating efficiency. Other participants commented on the efficiency offered through combining resources with other organizations. Two participants discussing the process behind their organization's choice to become involved said, *"We*

have an opportunity to align our resources with other organizations who have a vested interest in the same thing that we do;” and “...by working together with other organizations who share that common interest, even though the rest of our agendas may be different, you were more likely to move that piece of it forward.”

Relationships with other organizations. When asked generally about the effect involvement in the NPAP has had on their organization, building new relationships was evident in statements such as, “...it was an opportunity to get to know a lot of organizations that are different than the ones that we normally interact with” and “I think it's given us access to a lot of experts and a lot of new groups.” Some participants mentioned strengthening existing relationships in addition to building new ones as an effect of involvement; “It also continues to strengthen relationships that we have with other works that have similar missions.”

Provide Input

When asked about their organizations’ expectations for being involved in the coalition, nine participants (69%) stated they expected to lend their organization’s expertise in developing the NPAP, and/or expected the viewpoints of their organization would be represented in the content of the NPAP. Amongst the different types of expectations that emerged, providing input was a much more prevalent theme than others (e.g. advancement of policies; improving physical activity levels of the population). The expectation for providing input seemed to be by design, which might explain why it was more frequently stated than other expectations. As one participant stated, “Well we did have an expectation that we would be proactively engaged in the plan because that was one of the decisions that was made pretty early on about what the role of the

Coordinating Committee would be. And so almost by definition as a member of the Coordinating Committee, you would be involved in all of the steps of plan development.”

When speaking about the expectation that their organization would be able provide input on content of the NPAP, one participant stated, *“I would say an expectation that we had for being involved in the development was to establish our position in this group of organizations that were developing a plan as the experts in (our field).”*

Seminal Event

In deciding whether or not to join the coalition, many OPs (50%) cited the remarkable nature of the project as a reason for joining, evident in this participant’s response, *“...this was just historic... why not be involved in this. This has never been done before. There’s been a lot of good talk about it, but the convergence of trying to get number 1, the physical activity guidelines out there, and then number 2, to create a document that outlines the strategies to execute on those, or to make those a realistic, deliverable for the American public was just historic.”*

Cost/Benefit Ratio

All 14 participants (100%) stated their organization did not experience any negative consequences associated with involvement in the NPAP coalition. The following quote typifies responses across participants; *“Well I don't think there are any negative consequences.”* Although there was no specific question about positive consequences of involvement, all organizations realized positive consequences as the result of their involvement in the NPAP (2.3).

Discussion

Coalitions are highly complex. Their often heterogeneous membership represents disparate interests working to bring forth change that is influenced by the social and political contexts in which the coalition operates. Therefore, understanding the myriad of factors responsible for coalition success is equally complex. It has been proposed that coalition effectiveness is influenced by partner characteristics (e.g. level of involvement, motivations for participating, member expectations [12, 15, 16]. Additionally, for a coalition to survive, the payoffs to member organizations must outweigh or at least equal the costs of membership [17, 20, 21].

This study used qualitative methods to “unpack” partner characteristics, which are not yet well understood or measured [12, 15] to better understand why organizations joined and remain committed to the NPAP coalition. Five themes emerged from our data for partner characteristics, most of which may indicate more self-motivated, rather than altruistic reasons, for Ops’ commitment to the NPAP coalition. Strategic Alignment, Organizational Alignment, and Providing Input, all emerged as themes that served primarily, if not exclusively, the partner organization. Seminal Event emerged as a theme that may have had motivations that were equal parts self-serving and altruistic (e.g. of benefit to the field of physical activity and health, or the American population as a whole).

Our data show that, whether guided by self-serving or altruistic motives, the NPAP Organizational Partners experienced benefits from their involvement while experiencing no drawbacks, leading to the fifth theme that emerged; Cost/benefit ratio.

This may help explain why this coalition was particularly successful in achieving its initial goal to develop and launch a national plan for physical activity.

All participants mentioned their involvement in the NPAP coalition was driven by their organization's strategic interests which were aligned with the mission, vision or goals of the NPAP. This finding is not surprising given the relatively homogeneous composition of this coalition, composed primarily of health, public health, and sports and recreation-based organizations that may conduct research on, advocate for, and/or develop products and services related to PA.

Increasing population levels of PA will come largely from developing, advocating for, and implementing policies aimed at environmental and systems change across multiple sectors. Therefore PA coalitions at local, state, and national levels will likely benefit from a more heterogeneous composition. Based upon our findings, coalition success at the national level, and possibly state and local levels, may rely heavily on understanding how the strategic interests of prospective and current partners would be positively impacted by the mission, vision, and goals of the coalition. Particularly when considering organizations not typically concerned with physical activity and health (e.g. departments of transportation, retailers, departments of education, or elected officials), a thorough understanding of each organization's specific strategic interests may be an important first step in attracting highly committed partners.

Organizational alignment and its four sub-categories emerged as the second most common partner characteristic in understanding organizations' participation in the NPAP coalition. However, it was sometimes difficult to disentangle organizational alignment from strategic alignment, leading us to question whether or not organizational alignment

may in some cases be a component of strategic alignment. Irrespective of the possible relationship between organizational and strategic alignment, the four sub-categories of organizational alignment clearly related more to the self-serving interests of the partner organizations as compared to altruistic motives, which has been previously described in the literature. For example, the concept of improved operating efficiency has been described as a benefit of joining a public health related coalition [16, 21]. Therefore, understanding the extent to which organizational alignment is important to prospective and current coalition members, and if it is, demonstrating how their organization could be positively impacted by aligning with other coalition stakeholders, may help with recruitment and retention of committed partners.

OPs expected their “seat at the table” would grant them the opportunity to provide input on the process that would be followed for developing the NPAP, as well as on the actual content in the NPAP. In both cases, the extent to which those expectations were more for the benefit of the coalition or the individual partner were not completely clear. Providing input on the process to develop the NPAP appeared more altruistic considering participants’ comments about their organization’s capacity and desire to help the coalition achieve its mission of developing and launching the NPAP. Although one could argue that considering how closely the NPAP’s mission was connected to an organization’s strategic interests, achieving the NPAP’s mission did ultimately benefit each OP.

Development of the NPAP was a unique event, and for that reason, it attracted a number of partners, with half of our participants citing it as being an important aspect of their organization’s rationale for joining the coalition. The concept of the NPAP as a

seminal event may have limited application for PA coalitions at state and municipal levels, but may apply if and when a state or municipality endeavors to develop its own PA plan. For example, West Virginia modeled development of their state PA plan after the NPAP and achieved a similar level of success [26]. The importance of seminal events may be a significant indicator to track over time as a potential barrier to sustainability of membership as the novelty of the event decreases.

The relationship between the relative benefits and drawbacks of participation, or cost/benefit ratio, has been described previously as influencing partner commitment and, therefore, coalition success[20, 27], and emerged as a clear theme in this study. It is possible the cost/benefit ratio of participation is the primary operating construct, with strategic alignment, organizational alignment, and seminal event being latent variables for that construct. However, our study was not designed to address this possibility. As stated earlier, our data revealed that all NPAP OPs perceived strategic alignment with the NPAP and organizational alignment with other NPAP stakeholders as beneficial, stating them as either reasons for joining and staying in the NPAP coalition, and/or as an effect of involvement. Likewise, participants stated their organizations' involvement in the NPAP coalition was of value to their own constituents, making that a distinct benefit to participation, since it was not mentioned within the context of either strategic or organizational alignment. Perhaps most importantly, when participants were specifically asked if their organization experienced any negative consequences as the result of their involvement in the coalition, all participants responded by saying they could not identify any. This resulted in weighting the cost/benefit scale completely to the benefit side.

Very little is known about PA coalitions in the U.S., and most national PA plans from around the world lack an evaluation component that could inform development and advancement of national PA plans in other countries[28]. Hence, the primary strength of the current study is the qualitative methods, which provide important insight into factors that may impact PA coalitions at state and local levels within the U.S., and efforts to develop and advance national PA plans outside the U.S. The qualitative methods employed here identify new insight into organizational motivations for committing to a national-level PA coalition, which leads to important questions about state and local level coalitions that need to be addressed in future research.

There are some limitations to the current study. It is conceivable that the majority of NPAP OPs having been from the healthcare or public health, and sports and recreation sectors is a limitation. However, it is also conceivable the relative homogeneity of the NPAP coalition may in fact be a strength. For example, because strategic alignment was a highly prevalent theme in this study, it may highlight the importance of the need to understand how the strategic interests of an organization not obviously or typically associated with PA and public health could be positively impacted through membership in a PA coalition.

The greatest limitation lies in the organizations that were not represented. Representatives from five of the 18 Organizational Partners did not respond to repeated attempts to schedule an interview. It is possible that the experiences of those not interviewed differed from those who were interviewed, though we are not able to discern any differences (e.g. size of organization, type of organization, sector in which the organization operates, length of time as a coalition partner). Additionally, during the

process of recruiting Organizational Partners for the NPAP coalition, there were several organizations that chose not join at the level of an Organizational Partner, choosing instead to become “Organizational Affiliates.” Organizational Affiliates contributed to the development of the NPAP document, but did not commit the monetary and in-kind resources required of Organizational Partners, and thus were not represented on the Coordinating Committee and not recruited into this study. Understanding why these organizations chose not to join the coalition may be as important as understanding the choice to join, but that analysis fell outside the scope of the current study. Lastly, the uniqueness of the NPAP coalition may be a limitation. The fact that the NPAP coalition was so highly focused on a single product (i.e. development of the NPAP) and that the NPAP Organizational Partners contributed \$10,000 to join the coalition may be atypical as compared to state and local PA coalitions.

Based on these limitations, the ability to make inferences from this study to state and local level coalitions may be limited. Investigation of coalition partners in state and local PA coalitions will be necessary before definitive conclusions can be drawn about the similarities and differences between partner characteristics of the NPAP coalition and those of state and local PA coalitions. It’s possible for example that the NPAP being a “seminal event” may have little relevance at state and local levels. Conversely, states and municipalities are beginning to develop PA plans modeled after the NPAP, which may be perceived as a seminal event. Additionally, if the relative homogeneity of the NPAP coalition is different from the composition of state and local coalitions, this too could limit the generalizability of our findings. However it is possible that state and local PA coalitions have membership compositions similar to that of the NPAP coalition.

Future directions from the current study are threefold. First, the results should be presented to the NPAP coalition to inform recruitment of future OPs. Second, because the current study involved only one PA coalition operating at the national level, it will be important to determine whether or not the themes that emerged are relevant to state and local level PA coalitions throughout the U.S. Third, the current study focused primarily on the process for developing and launching the NPAP, and not on implementation. Therefore, it may be important to re-interview NPAP OPs in the future to determine whether or not different themes for decisions to join and stay committed to the NPAP coalition differ during the implementation process.

In conclusion, OPs joined and remained committed to the NPAP coalition primarily because doing so provided numerous benefits without any reported negative consequences to their organization, possibly explaining why the coalition was successful in developing and launching the NPAP. To the best of our knowledge, this study provides the most in-depth look at organizations' motivations for joining and remaining committed to a national-level PA coalition. Based upon our findings, building and maintaining a coalition with highly committed partners may hinge upon the ability to fully understand how each current or prospective partner believes it could benefit from: strategic alignment with the coalition; alignment with other coalition stakeholders; providing input into the coalition's processes and products; and the importance of the coalition's mission. Future research needs to identify the extent to which the five themes that emerged from this study of a national-level PA coalition can be confirmed in a broader sample of state and local-level PA coalitions.

Table 2.1. Semi-Structured Interview Questions Used to Assess Partner-Level Factors for the Organizational Partners of Developed the National Physical Activity Plan

Main Question	Follow-up Question	Probe
Please tell me how (Organization name) decided to become a member of the NPAP's Coordinating Committee?	Within your organization, what do you think were the key factors that influenced (organization name's) decision to join the Coordinating Committee?	Please describe anything more I should know about the decision to join the Coordinating Committee? <ul style="list-style-type: none"> Who was involved in the process? How was the decision making process used for the NPAP, similar or dissimilar to other strategic decisions made by (organization's name)?
What were (Organization name's) expectations for being involved in development of the Plan?	Please describe how (Organization name) arrived at those expectations?	Please tell me anything else about (Organization's name) expectations for its involvement in developing the NPAP that you feel is important? To what extent were these expectations met? Please explain.
Since the NPAP was released, please tell me about why (Organization's name) has chosen to stay/not stay involved in the NPAP?	How are these decisions made?	
What actions has your organization taken as the result of its membership on the Coordinating Committee?	What, if anything has (Organization's name) done to promote the NPAP? What, if anything has (Organization's name) done to implement or advance the NPAP?	Please describe any other actions that (Organization's name) has taken as the results of its membership on the Coordinating Committee?

What, if any affect has being involved in the NPAP had on (Organization's name)?	Please describe ways, if any that (Organization's name) strategic plan, goals or objectives have been changed to reflect any aspect of the NPAP?	Please describe ways, if any that being involved in the NPAP had any negative consequences for (Organization's name)? If so, please explain.
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NPAP=National Physical Activity Plan

Table 2.2. Organizational Partners of the United States National Physical Activity Plan

Organizational Partner Name	Common Acronym
Academy of Nutrition and Dietetics	--
American Academy of Pediatrics	AAP
American Alliance for Health, Physical Education, Recreation, and Dance	AAHPERD
American Association of Cardiovascular and Pulmonary Rehabilitation	AACVPR
American Cancer Society	ACS
American College of Sports Medicine	ACSM
American Diabetes Association	--
American Heart Association	AHA
American Physical Therapy Association	APTA
American Medical Association	AMA
United States Centers for Disease Control and Prevention	CDC
National Academy of Sports Medicine	NASM
National Athletic Trainers' Association	NATA
National Strength and Conditioning Association*	NSCA
National Society of Physical Activity Practitioners in Public Health*	NSPAPPH
Road Runners Club of America	RRCA
United States Department of Agriculture	USDA
The Y (formerly YMCA of the USA)	--

* Joined after the NPAP was launched in May, 2010

Table 2.3. Summary of Results to Semi-Structured Interview Questions for Organizational Partners of the National Physical Activity Plan Categorized by Major Emergent Themes

STRATEGIC ALIGNMENT
<p><u>Process to Join the NPAP Coordinating Committee:</u></p> <ul style="list-style-type: none"> • When interviewing a different participant, our interviewer probed “...you mentioned you could see where there was an alignment with your strategic plan and your mission.” The participant stated, “Absolutely. I would say that those are among the key factors, but also physical activity also ranks as one of our top advocacy items.” • “...at the fundamental level there was immediate alignment of, yes, this is a good project. The development of the National Physical Activity Plan is a great project, it’s a needed project, and it fits with so many things we’re trying to do.”
<p><u>Process to Stay with the NPAP Coordinating Committee:</u></p> <ul style="list-style-type: none"> • “...the recommendations of the National Physical Activity Plan are incredibly in line with (our organization’s) goals...and all of our work, all of our programming, all of our policy work, all our mission work is aligned.” • “Well we have strategic issues and this aligned with our strategic issue on prevention and wellness.”
<p><u>Effect of Involvement :</u></p> <ul style="list-style-type: none"> • One participant mentioned their organization launched a new strategic initiative as the result of being involved; “our ... initiative kind of came off the plan, was generated by the plan. And that's a national initiative.”
ORGANIZATIONAL ALIGNMENT
<p><u>Alignment as a strategic goal:</u></p> <ul style="list-style-type: none"> • “We have our annual objectives that we put together every year for our organization and part of that is we outline who our partners are going to be for the year...As part of that we said, yes, we're going to continue to be involved”
<p><u>Improved operating efficiency:</u></p> <ul style="list-style-type: none"> • “many of the eight sector groups have been active and have stayed in touch and on top of legislative issues that have been going on on the Hill for the last couple years. And I think it's really served as a way to coordinate and share information and organize our grassroots together.” • “for us it's a way to organize other people on behalf of some of the issues we're trying to advance.”
<p><u>Relationships with other organizations:</u></p> <ul style="list-style-type: none"> • “...it also helps us start relationships with those we hadn't worked very closely

<p><i>with in the past. So there's lots of benefits I believe.”</i></p> <ul style="list-style-type: none"> • <i>“We were also looking at some of the other people that were involved in the effort certainly have very good name recognition around the country. So to align ourselves with some of those other organizations was also we felt important.”</i>
PROVIDE INPUT
<ul style="list-style-type: none"> • <i>“I think that our expectations were really to have an ability to influence the plan where it was needed to be sure that the populations we represent were included.”</i> • <i>“I think we expected to participate in generating the elements of the plan and reviewing the plan. And we have in our membership researchers and practitioners both who deal with physical activity in all kinds of venues, so to that extent we felt that we were well resourced to provide input to the development of the plan.”</i> • <i>“I think that initially we came to the table just wanting to provide some expertise.”</i>
SEMINAL EVENT
<ul style="list-style-type: none"> • <i>“...this was just historic... why not be involved in this. This has never been done before. There’s been a lot of good talk about it, but the convergence of trying to get number 1, the physical activity guidelines out there, and then number 2, to create a document that outlines the strategies to execute on those, or to make those a realistic, deliverable for the American public was just historic.”</i>
COST/BENEFIT RATIO
<p><u>Negative consequences from participation:</u></p> <ul style="list-style-type: none"> • <i>“No, nothing negative. Nothing negative.”</i> <p><u>Positive consequences from participation:</u></p> <ul style="list-style-type: none"> • <i>“It's helped us to be able to provide more of a ... particularly when I go back to this policy continuum ... a great resource for our members, so there's definitely a member benefit to our organization.”</i> • <i>“I mean the plan itself is a really important thing and being able to consolidate all the policy strategies into a living document is really important.”</i>

NPAP=National Physical Activity Plan

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CHAPTER 3

MANUSCRIPT 2: DEVELOPMENT OF A SURVEY INSTRUMENT MEASURING ORGANIZATIONAL MEMBER INVOLVEMENT IN PHYSICAL ACTIVITY COALITIONS THROUGHOUT THE U.S.

Abstract

Background: Coalitions are often comprised of organizations such as government agencies, for-profit corporations, and non-profit organizations. Member involvement is thought to be associated with a coalition's level of success. No instrument currently exists for evaluating organizational member involvement in physical activity coalitions.

Purpose: The purpose of this study was to develop a survey instrument for evaluating organizational member involvement in PA coalitions. The study was carried out in three distinct phases: 1.) Developing a draft survey; 2.) Assessing the content validity of the draft survey; and 3.) Assessing the underlying factor structure, reliability, and validity of the survey.

Methods: A cross-sectional design was employed over the three phases of this study. In phase one, a team of individuals with expertise in survey development produced a draft survey based on results from a previously conducted qualitative study of a PA coalition. In phase two, the content validity of the draft survey was evaluated by a panel of individuals with expertise in physical activity coalitions and instrument development. In phase three, the survey was administered to 120 individuals representing the interests of

organizational members on local-, state, and national-level physical activity coalitions across the United States. Responses from those 120 individuals were subjected to an exploratory factor analysis was conducted in order to determine the underlying factor structure for the survey and to assess its internal consistency reliability and construct validity.

Results: The result from phases one and two was a survey instrument with demonstrated content validity for measuring organizational member involvement in PA coalitions. The exploratory factor analysis conducted in phase three yielded a three-factor model with the following subscales: Strategic Alignment, Organizational Alignment, and Providing Input. Each subscale demonstrated high internal consistency reliability as follows: Strategic Alignment (Cronbach's $\alpha = 0.94$); Organizational Alignment (Cronbach's $\alpha = 0.83$); and Providing Input (Cronbach's $\alpha = 0.88$). Each subscale also demonstrated construct validity.

Discussion: The survey instrument developed in this study demonstrated sound psychometric properties and provides new insight into organizational member involvement in PA coalitions. This survey instrument may be an important tool in developing a more complete picture of coalition functioning in PA coalitions specifically, and health-based coalitions overall.

Introduction

Increasing population levels of physical activity (PA) is one of the great public health challenges of the 21st Century[1], and meeting this challenge requires comprehensive change to policies, systems, and environments[2]. Effectively making such comprehensive change will likely not be achieved by government alone, and may

best be accomplished through collaborative efforts among diverse groups of partners, such as coalitions[3-9]. The prevalence of PA-based coalitions in the U.S. is on the rise, as are calls to evaluate how they function and what they produce [10-12]. Although an extensive literature on evaluating health-based coalitions in other domains (e.g. tobacco control, obesity, at-risk youth) exists, this literature has not offered definitive conclusions about what makes for an effective coalition [13].

Historically, evaluations of health-base coalitions have focused primarily on factors at the coalition level (e.g. resources, leadership, staff support, task focus) and the environmental level (e.g. political or community climate). These evaluations have provided equivocal findings on why these coalitions succeed or fail [13]. Moreover, many of the instruments used to evaluate these factors have failed to demonstrate acceptable validity and reliability[13]. Hence, there is a dearth of evidence on the factors that determine success or failure of coalitions.

Recent efforts to evaluate community-based health coalitions, not necessarily focused on PA, have identified “member-level” factors as being potential drivers of coalition success. For example, factors related to why an organization joins a coalition is thought to be a critical determinant of coalition success[14-16]. Additionally, an emerging literature from business administration points to similar “partner-level” factors as potential predictors for success or failure of strategic partnerships within the for-profit sector [17, 18].

Coalitions are often comprised of organizations such as government agencies, for-profit corporations and non-profit organizations. Those member organizations typically appoint an individual or individuals to represent their interests on the coalition. In this

investigation, we use the term “organizational member” to describe an organization that is a member of a PA coalition. No instrument currently exists for evaluating organizational member involvement in health-based coalitions generally or PA coalitions specifically. Having a valid and reliable instrument for measuring organizational member involvement in PA coalitions will provide a more comprehensive means for evaluating PA coalition functioning, which may subsequently lead to increased effectiveness of PA coalitions. Because of the central role PA coalitions now play in efforts to increase population-levels of PA, increasing their effectiveness is critical to public health. Therefore, the aim of this study was to develop a survey instrument for evaluating organizational member involvement in PA coalitions. This study was undertaken in three phases. First, we drafted a survey based on a previous qualitative analysis of organizational member involvement in a national-level PA coalition. Second, we assessed the content validity of the draft survey in order to produce a final version of the survey that would undergo subsequent psychometric testing. Third, we determined the survey’s psychometric properties after administering it to individual respondents who represented the interests of organizational members to national-, state-, and local-level PA coalitions across the U.S.

Methods

A cross-sectional design was employed in each of the study’s three phases. All aspects of the study were approved by the institutional review board at the University of South Carolina.

Phase 1: Development of the Draft Survey

The survey instrument developed for this study, the Member Involvement in Physical Activity Coalitions (MIPAC) survey, was directly informed by a previous qualitative analysis of the coalition that developed the National Physical Activity Plan (NPAP) for the United States. A detailed description of that study is available elsewhere [19], however, a brief description of that study's methods and results is provided. The NPAP qualitative study employed in-depth interviews with key informants from organizational members of the NPAP coalition in order to understand the factors related to organizations' decisions to join and remain committed to the NPAP coalition. Results, summarized in Table 3.1, showed that five factors were critical to organizations' decisions around committing to the NPAP coalition.

Three individuals with expertise in developing survey instruments developed a draft survey that underwent subsequent content validity testing. Specifically, the survey development team: 1) reviewed results from the qualitative analysis of the NPAP coalition; 2) developed candidate demographic items; 3) developed candidate question stems intended to measure the five factors that emerged from the qualitative analysis of the NPAP coalition; 4) discussed types of response options and decided on using a 5-point Likert scale, from strongly disagree to strongly agree, for all items specific to the five hypothesized factors; 5) produced an initial draft survey; 6) discussed and edited the initial draft survey; and 7) reached consensus on a final draft survey.

Phase 2: Assess the Content Validity of the Draft Survey to Produce a Final Survey

Nine individuals with extensive research and practice-based expertise in the area of PA coalitions were recruited to participate on a panel providing two waves of content

validity testing. The goal of the content validity testing was to produce a final survey instrument that included a minimum of three content-valid items per unique factor. In order to adequately test an instrument's psychometric properties, having three items per latent construct is required [20]. Wave one of content validity testing began with each panelist being provided the initial pool of thirty eight candidate items, definitions for each of the five proposed latent factors, a "content validity feedback form," and instructions for providing feedback. On the content validity form, each panelist was offered a 3-point Likert scale in order to provide feedback on: 1. relevancy of each item for what it was intended to measure (very relevant, somewhat relevant, not at all relevant); 2. clarity with which each item was written (very clear, somewhat clear, not at all clear); and 3. degree to which each item was concisely written (very concise, somewhat concise, not at all concise). Additionally, panelists were asked to identify ways of measuring the phenomenon of interest, organizational member involvement in a PA coalition, which may not have been represented in the survey. Data from content validity forms were collected and reviewed by the lead author. Based upon those data, several survey items were semantically revised to improve clarity and conciseness, none were dropped, and no new items were added to the survey, as panelists did not indicate that there were other ways of tapping the member involvement phenomenon.

In wave two of content validity testing, each panelist was provided a revised version of the survey along with a voting sheet to indicate whether to keep or drop each item in the survey. Any item not receiving a "keep" vote from at least 70% of panelists was dropped from the survey.

Phase 3: Assess the Underlying Factor Structure, Reliability, and Validity of the Survey

Given that the aim of this study was to assess the perspectives of “organizational members” of PA coalitions, we recruited individuals who were likely to represent the interests of an organizational member (e.g. an employee of an organizational member) to a PA coalition. The study sample was drawn from members of the National Physical Activity Society (NPAS). The NPAS is a professional organization comprised of roughly 1,300 members with research and practical expertise in the areas of health promotion and education, public health, exercise science and exercise physiology, physical education, and community and transportation planning. We targeted this organization because we considered it likely that its members would be involved with PA coalitions. Each NPAS member received three separate e-mails from their Executive Director requesting their participation in the study, along with a link to the web-based survey. As an incentive, participants were offered the opportunity to be entered into a drawing to receive one of five \$100 gift cards to Amazon.com. The recruitment goal was to include at least five respondents for each unique item in the survey instrument (n=120). All data were collected in February and March, 2013.

Responses to the survey were subjected to an exploratory factor analysis (EFA). EFA is the process through which a series of subjective and objective tests lead to decisions about how well the scale items “map” or load onto the number of factors, or constructs, that underlie a scale. Results from the tests were interpreted using four guiding principles[21]: 1. At least three questions/items should address any given construct/factor; 2. Items need to share a conceptual meaning (i.e. interpretability); 3.

Variables that load on different factors measure different constructs; and 4. Simple structure must be obtained. Simple structure is obtained when items are determined to load strongly on a given factor with a factor loading of > 0.4 (or < -0.4) [20, 21]. The principal factors method was employed for initial extraction of factors, which was then followed by an oblique factor rotation, given the assumption of correlation among the factors. Analyses were conducted using Proc Factor from SAS version 9.2 (SAS Institute, Cary, North Carolina).

Once simple structure was achieved, the internal consistency reliability (Cronbach's alpha) was assessed for each subscale and the survey as a whole using SAS, version 9.2 Proc Corr. An alpha score below 0.60 was considered unacceptable, while alpha scores from 0.60-0.90 were considered increasingly acceptable. If the alpha score for a given subscale exceeded 0.90, items were considered for deletion in order to simplify that scale. In cases where deleting an item or items was considered, the item that would most minimally effect alpha after its deletion was the item chosen for deletion.

The MIPAC's construct validity was then evaluated using a set of previously validated items [refs] for "Coalition Satisfaction" and "Coalition Outcome Efficacy" that were included in the survey. Theoretically, the coalition satisfaction and coalition outcome efficacy constructs should be positively associated with the hypothesized latent constructs underlying the MIPAC survey. If a positive association is observed, then convergent validity, a form of construct validity, will have been demonstrated[20]. Factor scores for the latent constructs were correlated with mean values for the two sets of construct validity items to determine level and direction of association.

Results

Phase 1: Development of the Draft Survey

The team of survey development experts produced a survey with four distinct sections. Each section had the following number of candidate items: 1. Introduction and definitions (n=1); 2. Coalition demographics (n=9); 3. Member demographics (n=6); 4. Content-specific items (n=38). The number of content-specific candidate items for the five proposed latent constructs were: Strategic Alignment (n=10); Organizational Alignment (n=10); Providing Input (n=9); Seminal Event (n=4); Cost/Benefit Ratio (n=5). Section one included a general introduction and instructions for the survey, including definitions for “Physical activity coalition,” “Organizational member,” and “Individual member.”

Phase 2: Assessment of Content Validity of the Draft Survey to Produce a Final Survey

Results from voting by the panel of content validity experts yielded a total of 24 content-valid items across the five proposed latent constructs as follows: Strategic alignment (n=7); Organizational Alignment (n=6); Providing Input (n=4); Seminal Event (n=3); Cost/Benefit Ratio (n=4). A final version of the survey was formatted using software from Qualtrics (www.qualtrics.com). The final survey included the introduction and definitions, 16 demographic items, the 24 items with demonstrated content validity, and six previously validated items [22] to assess construct validity (Appendix AA). Response options for the 24 content validity items and the six construct validity items were on a 5-point Likert from Strongly Disagree to Strongly Agree, and were scored from 1-to-5 respectively.

Phase 3: Assess the Underlying Factor Structure, Reliability, and Validity of the Survey

Participants were divided into three categories: 1) a person not associated with a PA coalition; 2) a person who is an “individual member” of a PA coalition; or 3) a person representing an “organizational member” of a PA coalition. The current analyses are restricted to participants who indicated that they represent an “organizational member,” henceforth referred to as “respondents.”

An accepted guideline when conducting exploratory factor analysis is to include a minimum of five respondents per unique item per construct in the survey instrument[20]. Because the MIPAC survey included 24 unique items, a minimum of 120 respondents was required to meet the recommended guideline. A total of 341 individuals (~ 26% response rate) were successfully recruited into the study. Of those 341 participants, 148 (43%) were not associated with a PA coalition. Of the remaining 193 participants, 139 (72%) were respondents who represented the interests of an organizational member of a PA coalition. Responses from those 139 respondents were retained for the current analysis. These respondents provided the descriptive information for the PA coalitions and organizational members of those coalitions provided in Table 3.2.

Of the 139 respondents, 86% (n=120) completed the entire survey. In reviewing the data for the 19 respondents who did not fully complete the survey, we were not able to identify discernible patterns across those respondents. Therefore, data from the 120 completed surveys were used to conduct the exploratory factor analysis (EFA). Results from the EFA are presented in Table 2.3. Mean scores across variables included in the EFA ranged from 3.7 to 4.5, with standard deviations ranging from 0.60 to 0.89.

Subjective analyses (i.e. eigenvalues and scree plot) suggested the possibility of either a 5- or 3-factor solution. For example, the first four factors had eigenvalues of 11.50, 1.76, 1.60, and 0.93 respectively. Based upon the Kaiser criterion this suggested retaining three factors[23]. The Scree plot however had two “elbows” suggesting the possibility of either a 3- or 5-factor solution[24].

Based on results from the subjective analyses, three principal axis factor analyses were conducted with promax (oblique) rotations, extracting 5, 4, and 3 factors respectively. Using the guiding principles for interpretation described previously, the model that provided the simplest and most robust structure was the 3-factor, 16-item model seen in Table 3.3. Simple structure was evident in that each of these items loaded above .40 on a single factor and did not load above 0.40 on more than one factor. In this final model the first three factors explained 98.89% of the total variance cumulatively, and 73.04%, 15.42%, and 10.43% of the variance respectively. It is worth noting that there were three items with shared conceptual meaning, two of which loaded strongly onto a fourth factor with loadings of 0.76 and 0.78 respectively. However, since our guiding principles required that there be a minimum of three items per factor, we dropped those three items and were left with the aforementioned three factor model.

The MIPAC survey and its three subscales demonstrated high internal consistency reliability. Cronbach’s alpha for the whole instrument was 0.92. As seen in Table 2.4, Cronbach’s alpha for each subscale was 0.94, 0.83, and 0.88 for Strategic Alignment, Organizational Alignment, and Providing Input, respectively. Given the high alpha scores and number of items for each of the subscales, efforts were made to reduce the length of the survey by deleting individual items. However, each attempt at removing individual

items yielded a decrease in reliability for the subscale, resulting in the decision to retain all items for each scale.

Each of the subscales demonstrated significant construct validity, evident in the convergent validity displayed among each of the subscales and the items for “Coalition Satisfaction” and “Coalition Outcome Efficacy.” As shown in Table 3.4, Strategic Alignment, Organizational Alignment, and Providing Input were significantly positively correlated with Coalition Satisfaction with the coalition at 0.48, 0.58, and 0.32 respectively. Additionally, Strategic Alignment, Organizational Alignment, and Providing Input were significantly positively correlated with Coalition Outcome Efficacy at 0.60, 0.59, and 0.40 respectively.

Discussion

The major finding of this study is that the MIPAC survey demonstrated high levels of internal consistency reliability and convergent validity[20]. This is an important finding because the majority of instruments for measuring attributes of health-based coalitions have lacked demonstrated validity and reliability[13]. Additionally, this study provides important new information about factors related to organizational member involvement in physical activity (PA) coalitions. This too is a significant finding, given how little is known about measuring organizational member involvement in PA coalitions specifically, and health-based coalitions generally.

The process employed in developing the MIPAC survey followed accepted protocols for development of survey instruments[20], and adhered to best-practices for researching health-based coalitions[13, 25, 26]. For example, experts have called for the use of mixed-methods designs in studying health-based coalitions[13]. The quantitative

approach employed here was a direct follow-up to a previous qualitative study on organizational member involvement performed by our research team. Additionally, it is generally recommended that the content validity of a survey instrument be assessed prior to administering the survey widely[20]. We employed expert panels to develop and test the content validity of the survey prior to administering it to a broad sample of PA coalitions. Lastly, it has been suggested that developing valid and reliable instruments for measuring coalitions requires large sample sizes[27]. We sampled 120 organizational representatives from PA coalitions at national-, state-, and local-levels across the United States. These methods produced a psychometrically sound instrument that can be utilized by investigators interested in measuring attributes of physical activity coalitions.

The MIPAC survey advanced our understanding of factors related to *organizational member involvement* in PA coalitions. The literature on health-based coalitions provides a dizzying array of constructs thought to be related to member involvement in coalitions. Many of these constructs have been poorly explicated and insufficiently measured. The MIPAC's Strategic Alignment, Organizational Alignment, and Providing Input subscales provide valid and reliable means for measuring three clearly defined member involvement constructs.

The MIPAC's Strategic Alignment subscale likely measures two previously identified member involvement constructs: *congruent values* and *compatible goals* [26-30]. Items such as "My organization and this coalition are working to achieve similar goals" and "My organization's mission aligns with the vision of this coalition" clearly represent congruent values and compatible goals. It was not surprising that Strategic Alignment emerged as a subscale with high factor loadings and high internal consistency

reliability. Most organizational members of the PA coalitions we sampled (74%) operate primarily in the education, health care, or public health sectors. Many activities of PA coalitions (e.g. agenda-setting, advocacy, policy change, program development)[11] are carried out in education, health care, or public health settings. Therefore, it is logical to expect that organizational representatives would perceive there to be strategic alignment between their organization and the PA coalition on which their organization is a member.

Constructs related to the benefits of aligning with other organizations are evident in the coalition literature[15]. For example, Lasker et al highlight the importance of *connections to people, organizations, and groups; sharing of goods and equipment; and pooling of skills, expertise, and information*[15] in their model of partnership synergy. Items from the MIPAC's Organizational Alignment subscale provide a novel, psychometrically sound means for measuring benefits of aligning with other organizational members of PA coalitions. The following two items demonstrate how this subscale measures previously described benefits of organizational alignment: "Working with other organizations that are on this coalition has been beneficial to my organization" and "My organization has been able to do things more efficiently as the result of working with other organizations that are members of this coalition."

Items from the MIPAC's Providing Input subscale also seem to measure previously described constructs from the literature on health-based coalitions. Specifically, the constructs of *mutual learning*[27, 31] *member skills and training*[13] and *member participation*[15, 28, 32, 33] may be represented in items such as "This coalition benefits from my organization's expertise" and "My organization provides knowledge to this coalition." Hence, the Providing Input subscale may be a unique

instrument for measuring mutual learning, member skills and training, and member participation in PA coalitions.

It is noteworthy that two factors we hypothesized might emerge in the EFA, Cost/Benefit Ratio, and Seminal Event, did not emerge. For example, “benefits of coalition membership outweighing its costs” is a concept mentioned repeatedly in the literature[13, 16, 22, 30, 34-36]. For example, when Prestby et al. examined individuals’ motives for participating in voluntary organizations, they found highly active individuals were motivated by “material benefits” (e.g. money or information), “solidary benefits” (e.g. benefits from social interactions), or “purposive benefits” (e.g. bettering the community)[34]. Given that items specific to Cost/Benefit Ratio cross-loaded onto the Strategic Alignment and Organizational Alignment subscales, we speculate that organizational members perceived having strategic alignment and organizational alignment as highly beneficial, thereby washing out cost/benefit ratio as a distinct factor. The concept of Seminal Event emerged from our qualitative study of the coalition that developed the U.S. National Physical Activity Plan. The MIPAC survey included three items intended to measure the Seminal Event construct. Two of those three items loaded strongly onto a fourth factor, but the third item loaded onto a different factor. It is possible that had there been more items intended to Seminal Event that it would have emerged as a fourth factor.

There are some limitations to the current study. First, the exploratory factor analysis conducted here is limited to investigating the underlying factor structure for a set of observed variables and does not provide definitive evidence of a statistical relationship between observed variables and their underlying latent constructs. Second, the MIPAC

survey is designed to measure one specific aspect of coalition functioning, organizational member involvement. Therefore, the MIPAC survey alone cannot offer a complete understanding of the myriad of factors that may contribute to how coalitions function. Third, only coalitions focused on PA were considered in the current study. While it is likely that PA coalitions share many attributes with other health-based coalitions, extrapolating the findings from this study beyond PA coalitions should be done with caution. Finally, analysis in the current study was restricted to respondents representing “organizational members” of a PA coalition, excluding individuals representing their own interests. It may be that the interests of an organization differ significantly from those of an individual, thus limiting the ability to extrapolate the current findings to individual coalition members.

The current study suggests several future research directions. First, consideration should be given to replicating the current study in a larger sample of PA coalitions and employing confirmatory factor analysis to provide more definitive evidence for the relationship between the observed variables and their latent constructs. Such a study should consider further investigation into the presence or absence of Seminal Event as a distinct factor related to organizational membership by including additional items designed to measure the Seminal Event construct. Second, future studies should consider including a diverse sample of health-based coalitions in order to test the MIPAC survey’s psychometric properties across a broad spectrum of health-based coalitions. Third, future studies should consider combining the MIPAC survey with previously validated instruments for measuring other aspects of coalition functioning. Combining the MIPAC with other such instruments may provide a more complete picture of how coalitions

function and may help determine the relative importance of organizational member involvement as compared to other aspects of coalition functioning.

In conclusion, the MIPAC survey developed in this study demonstrated sound psychometric properties and provides new insight into organizational member involvement in PA coalitions. The MIPAC survey may be an important tool in developing a more complete picture of coalition functioning in PA coalitions specifically, and health-based coalitions overall.

Table 3.1. Names and Definitions of Factors Related to Organizations' Rationale for Committing to the Coalition That Developed the U.S. National Physical Activity Plan

Name of Factor	Definition of Factor
Strategic Alignment	The strategic initiatives (e.g. strategic plan, mission, vision, goals, objectives, projects, or plans) of the organization were congruent with the vision, mission, and goals of the NPAP coalition.
Organizational Alignment	The organization recognized the importance of aligning with other organizations involved with the NPAP coalition.
Providing Input	The organization expected to lend expertise in developing the NPAP, and/or to ensure that their organization's viewpoints were represented in the NPAP document.
Seminal Event	Development and launch of the NPAP was a significant event in which involvement was viewed by the organization as highly important.
Cost/Benefit Ratio	The organization realized more positive than negative effects from having been involved in the NPAP coalition.

Table 3.2. Descriptive Information for Physical Activity Coalitions and Their Organizational Members

Level at which coalition is organized*	Freq (%)
National	18 (12%)
State	64 (44%)
Local	88 (60%)
Coalition location by census region	
West	22 (16%)
Midwest	36 (25%)
Northeast	24 (17%)
South	51 (36%)
Pacific	9 (6%)
Area in which coalition is working*	
Urban	106 (71%)
Suburban	97 (65%)
Rural	78 (52%)
Number of organizational members in coalition	
1-10	31 (22%)
11-30	56 (40%)
31-50	31 (22%)
> 51	23 (16%)
Types of organizational members	
For-profit	13 (9%)
Non-profit	49 (33%)
Government agency	57 (38%)
Educational Institution	23 (15%)
Other	8 (5%)
Number of employees at organizational members	
0-5	18 (14%)
6-20	13 (10%)
21-50	14 (11%)
51-100	16 (12%)
> 100	72 (54%)
Societal sector in which organizational members primarily work	
Education	33 (22%)
Health Care	23 (15%)
Parks, Recreation, Fitness, or Sport	11 (7%)
Transportation, Urban Planning, or Community Design	12 (9%)
Public Health	56 (37%)
Other	14 (9%)

* Indicates ability for participant to respond with more than one answer

Table 3.3. Means, Standard Deviations, Eigenvalues and Factor Loadings for Retained Items from the MIPAC Survey

			Factor		
			Strategic Alignment	Providing Input	Organizational Alignment
Eigenvalues			7.81	1.65	1.11
% of Variance			73.04	15.42	10.43
Cumulative %			73.04	88.46	98.89
Item	Mean	SD	Factor Loadings		
The strategic interests of my organization align with the purpose of this coalition.	4.47	0.79	0.53	0.09	0.11
The organization I represent and this coalition are trying to achieve the same things.	4.37	0.76	0.78	0.02	-0.01
My organization's mission aligns with the vision of this coalition.	4.35	0.71	0.82	0.07	0.03
My organization is a member of this coalition because we are working to achieve the same objectives.	4.44	0.68	0.81	0.11	-0.02
My organization and this coalition are working to achieve similar goals.	4.41	0.72	0.86	0.05	0.01
My organization and this coalition share a similar vision.	4.31	0.71	0.99	-0.08	-0.07
The mission of my organization lines up with the mission of this coalition.	4.30	0.73	0.80	-0.06	0.19
My organization has been able to do things more efficiently as the result of working with other organizations that are members of this coalition.	3.90	0.81	0.27	-0.01	0.44

			Factor		
			Strategic Alignment	Providing Input	Organizational Alignment
Eigenvalues			7.81	1.65	1.11
% of Variance			73.04	15.42	10.43
Cumulative %			73.04	88.46	98.89
Item	Mean	SD	Factor Loadings		
Being a member of this coalition has allowed my organization to strengthen existing relationships with other organizations.	4.15	0.70	0.02	0.19	0.72
Being a member of this coalition has allowed my organization to build important new relationships with other organizations.	4.13	0.76	0.07	0.04	0.81
Working with the other organizations that are on this coalition has been beneficial to my organization.	4.21	0.68	0.20	0.10	0.75
My organization is a member of this coalition because the coalition has other well-respected organizations as members.	3.70	0.89	-0.01	0.19	0.58
My organization provides knowledge to this coalition.	4.34	0.73	0.13	0.76	-0.03
This coalition benefits from my organization's expertise.	4.38	0.72	-0.05	0.82	0.10
My organization has expertise that is useful for this coalition.	4.49	0.60	-0.01	0.92	-0.06
My organization has skills that benefit this coalition's activities.	4.41	0.66	0.04	0.78	-0.08

Table 3.4. Internal Consistency Reliability, and Validity Assessment for the MIPAC Survey's Three Subscales

Factor	Correlations					
	Alpha	Strategic Alignment	Organizational Alignment	Providing Input	Satisfaction with the Coalition	Coalition Outcome Efficacy
Strategic Alignment	0.94	1			0.48*	0.61*
Organizational Alignment	0.83	0.60*	1		0.58*	0.59*
Providing Input	0.88	0.53*	0.58*	1	0.32**	0.41*

*p <.0001

** p<.0005

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CHAPTER 4

MANUSCRIPT 3: PHYSICAL ACTIVITY COALITIONS ACROSS THE UNITED STATES: PERSPECTIVES FROM ORGANIZATIONAL MEMBERS²

Abstract

Background: Physical Activity (PA) Coalitions are a fundamental component of efforts to increase population levels of PA in the United States. Coalitions are often comprised of organizational members including government agencies, for-profit corporations, and non-profit organizations. The level of success attained by coalitions is thought to be influenced by coalition members. The study of PA coalitions is in its infancy. No previous studies have described characteristics of PA coalitions and their organizational members from the perspective of organizational members. No previous studies have investigated the association between organizational member involvement in PA coalitions and perceived coalition success.

Purpose: The purpose of this study was threefold. First, the study aimed to describe the characteristics of organizational members of PA coalitions. Second the study aimed to describe the characteristics of PA coalitions. Third, the study aimed to summarize key factors for organizational member involvement in PA coalitions and to investigate the association between those key factors and perceived coalition success.

² Bornstein DB, Blair SN, Beets MW, Saunders R, Ortaglia A, Pate RR. To be submitted to *American Journal of Public Health*.

Methods: A cross-section design was employed to study individuals representing the interests of organizational members of local-, state, and national-level PA coalitions across the United States. 120 individuals completed the Member Involvement in Physical Activity Coalitions (MIPAC) survey. The MIPAC includes three sections: 1) demographic items for assessing descriptive characteristics of PA coalitions and their organizational members; 2) three subscales for assessing factors for organizational membership (Strategic Alignment, Organizational Alignment, and Providing Input); and 3) two subscales for assessing perceived coalition success (Satisfaction with the Coalition, and Coalition Outcome Efficacy). Frequencies of responses from demographic items were used to provide descriptive characteristics of PA coalitions and the organizational members of PA coalitions. To summarize key factors for organizational member involvement in PA coalitions, the means and standard deviations were calculated for each of the MIPAC's three organizational membership subscales. To investigate the association between factors for organizational member involvement and perceived coalition success, pooled t-tests were used to test for differences in mean scores for each of the three subscales for organizational membership across high and low levels of perceived coalition success.

Results: Organizational members of PA coalitions are predominantly government agencies (40%), or Non-profit corporations (33%). A small percentage of organizational members (12%) work in settings related to the built environment. A high proportion of PA coalitions are working in schools (78%) and on the built environment (58%). A statistically significant association was observed between organizational membership in a PA coalition and perceived coalition success.

Discussion: This study provides important, new insight into the key factors related to organizational membership in PA coalitions and on the relationship between those factors and perceived coalition success. Insights from this study have important implications for investigators seeking to measure PA coalitions, and practitioners seeking to build and maintain successful PA coalitions.

Introduction

Physical inactivity causes non-communicable disease[1] and is the fourth leading cause of death worldwide[2]. Physical activity (PA) levels of American adults and youth are perilously low[3, 4]. Attempts to increase population-levels of PA through individual behavior modification have proven insufficient[5], leading to calls for approaches focused on policy, systems, and environmental change [6-10]. Changes to policies, systems, and environments may best be accomplished through collaborative efforts involving diverse groups of stakeholders, such as coalitions [11-13]. The Institute of Medicine and the U.S. Centers for Disease Control and Prevention cite the importance of coalitions as a key public health strategy[13, 14].

Efforts to conceptualize and measure how and why health-based coalitions succeed have largely fallen short[15]. There are now thousands of health-based coalitions in the U.S. and only 15% of them are well documented[16] with details about their structure and functional characteristics. The existing literature on health-based coalitions has been characterized as lacking empirical information[15, 17], and providing “limited evidence of the effectiveness of partnerships in achieving desired outcomes[17]” To date, no single dominant theoretical framework has been widely adopted for understanding the

manner in which coalitions function [15, 16, 18-20]. Likewise, no defined set of measurement instruments has been accepted for assessing coalition functioning[15].

“Coalition functioning” is a term used frequently in the coalition literature to represent an amalgam of constructs that are thought to contribute to success or failure of coalitions [11, 15, 19, 21]. Recent efforts to better understand coalition functioning, and the functioning of strategic partnerships in the for-profit sector, have suggested that factors related to “member/partner involvement” may be vital to improving coalition/partnership functioning [18-20, 22, 23]. Specifically, it has been suggested that factors such as member satisfaction[24-26], member commitment[25, 27], and costs/benefits[25, 27, 28] of member participation may be critical determinants of coalition success. However, these factors have yet to be well-described and well-measured in health-based coalitions generally or PA coalitions specifically[15, 16].

Coalitions focused specifically on PA have only recently emerged. As a result, there is little understanding of the factors associated with successful PA coalitions. To the best of our knowledge, only one previous study has described coalitions focused on PA[29]. That study offered important insights into the characteristics and activities of PA coalitions, but was limited to information provided by coalition coordinators and coalition staff. The perspectives of coalition members and factors related to member involvement were not addressed in that study.

Coalition members are typically organizations such as government agencies, for-profit corporations and non-profit organizations. In this investigation, we use the term “organizational member” to define such organizations. Organizational members typically appoint an individual or individuals to represent their interests to the coalition. We

therefore use the term “organizational representative” to describe an individual who represents the interests of an organizational member of a coalition. Given that member involvement has been thought to play an important role in coalition functioning and coalition success[refs], and how little is known about the perspectives of organizational members of coalitions, the purpose of this study was threefold. First, we aimed to describe the characteristics of organizational members of PA coalitions. Second we aimed to describe the characteristics of PA coalitions from the perspective of organizational members. Third, we aimed to summarize key factors for organizational member involvement in PA coalitions and to investigate the association between those key factors and perceived coalition success. This purpose was achieved through surveying organizational representatives to PA coalitions.

Methods

A cross-sectional study design was employed and data were collected in 2013. All aspects of the study were approved by the institutional review board at the University of South Carolina.

Recruitment and Eligibility

The study sample was drawn from members of the National Physical Activity Society (NPAS). The NPAS is a professional organization comprised of roughly 1,300 members with research and practical expertise in the areas of health promotion and education, public health, exercise science, physical education, and community and transportation planning. We targeted this organization because we considered it likely that many of its members would be associated with PA coalitions. Each NPAS member received three separate e-mails from the organization’s Executive Director requesting

their participation in the study along with a link to the web-based survey. As an incentive, participants were offered the opportunity to be entered into a drawing to receive one of five \$100 gift cards.

In order to be included in this study, survey respondents were required to meet our definition of an “organizational representative” to a PA coalition. A total of 341 NPAS members (~ 26%) responded to the survey. Of those 341 respondents, 148 (43%) were not associated with a PA coalition and were excluded from the study. Of the remaining 193 participants, 54 (39%) indicated being associated with a PA coalition, but did not meet our criteria for being an “organizational representative” and were excluded as well. A total of 139 respondents met our inclusion criteria.

Data Collection

All participants who met our inclusion criterion completed the on-line Member Involvement in Physical Activity Coalitions (MIPAC) survey. Data were collected using software from Qualtrics[ref].

The MIPAC Survey

The MIPAC survey is a 44 item survey designed to measure the following four aspects of PA coalitions from the perspectives of organizational representatives: 1. Characteristics of PA coalitions; 2. Characteristics of organizational members of PA coalitions; 3. Factors related to organizational member involvement in PA coalitions; and 4. Perceived success of the PA coalition of which they are a member.

A detailed description of the development and psychometric evaluation of the MIPAC survey is available elsewhere [Bornstein et al, 2013]. Following is a brief summary of those results. To assess factors for organizational member involvement in

PA coalitions, the MIPAC has three distinct subscales: Strategic Alignment (Cronbach's $\alpha = 0.94$); Organizational Alignment (Cronbach's $\alpha = 0.83$); and Providing Input (Cronbach's $\alpha = 0.88$), measured by seven, five, and four items respectively.

Strategic Alignment is defined as "The strategic initiatives (e.g. strategic plan, mission, vision, goals, objectives, projects, or plans) of the organization were congruent with the vision, mission, and goals of the coalition." Organizational Alignment is defined as "The organization recognized the importance of aligning with other organizations involved with the coalition." Providing Input is defined as "The organization expected to lend expertise in developing the coalitions' projects or plans, and/or to ensure that their organization's viewpoints were represented on the coalition." To assess organizational members' perceived success of the PA coalition of which they are a member, the MIPAC included items from an established instrument which measures: Satisfaction with the coalition; and Coalition outcome efficacy[25]. Response options for all items were on a 5-point Likert scale from Strongly Disagree-to-Strongly Agree, and were scored from 1-to-5 respectively.

Data Analyses

All survey data were entered directly into Microsoft Excel 2007. We tabulated the data and calculated descriptive statistics using SAS version 9.2 (SAS Institute, Cary, North Carolina). Of the 139 respondents who took the MIPAC survey, 120 completed all of its items. Responses from the 120 respondents who completed the MIPAC were retained for the current analysis.

In order to describe the characteristics of organizational members and the characteristics of their associated PA coalitions, we first created strata for each level at

which a coalition operates (national, state, or local). Frequencies of responses to items specific to organizational member characteristics and coalition characteristics were then generated based on the strata for level at which the coalition operates. In summarizing factors for organizational member involvement in PA coalitions, we first created sum scores for responses to the MIPAC's three subscales: Strategic Alignment; Organizational Alignment; and Providing Input. Means and standard deviations for each subscale were then stratified by "type of organizational member" (e.g. for-profit; non-profit; government agency; educational institution; or other). Means and standard deviations for each subscale were also stratified by the "sector in which the organizational member primarily operates (e.g. education; health care; public health; parks, recreation, fitness, and sport; transportation, or other).

To investigate the presence or absence of an association between organizational member involvement and organizational members' perceived coalition success, we first created dichotomous variables for "high" and "low" levels of Coalition Satisfaction and Coalition Outcome Efficacy. The dichotomous variables were created by generating an average score for responses to items from the Coalition Satisfaction and Coalition Outcome Efficacy scales. An average score greater than or equal to 4 was classified as "high" while an average score less than 4 was classified as "low." As previously mentioned, response options to all items were worded from Strongly Disagree-to-Strongly Agree, and were scored from 1-to-5 respectively. Next, pooled t-tests were used to test for statistically significant differences in the mean scores for Strategic Alignment, Organizational Alignment, and Providing Input across "high" and "low" levels of Coalition Satisfaction and Coalition Outcome Efficacy.

Results

Descriptive characteristics of organizational members of PA coalitions are summarized in Table 4.1. Across all levels of coalitions (national, state, and local), organizational members of PA coalitions were predominantly Government agencies (40%) and Non-profit corporations (33%). Given the wide interest in the influence of the built environment on PA behavior, it was surprising to see that only 12% of organizational members reported operating primarily within the two sectors most closely associated with the built environment: Transportation; and Parks, Recreation, Fitness and Sports.

Descriptive characteristics of PA coalitions are summarized in Table 4.2. A relatively high proportion of coalitions reported to be working in the Built Environment (58%) and the Parks, Recreation, Fitness & Sports (52%) settings, yet relatively few organizational members were from the Transportation, and Parks, Recreation, Fitness, and Sports sectors. 78% of coalitions reported being engaged in advocacy to promote active living, and 59% reported pursuing changes to/formation of policy, while 48% reported engaging or partnering with appointed/elected officials.

Means and standard deviations for key factors related to organizational member involvement in a PA coalition are presented in Tables 4.3 and 4.4. In Table 4.3, the means and standard deviations for Strategic Alignment, Organizational Alignment, and Providing Input are presented by type of organizational member (For-profit; Non-profit; Government agency; Educational institution; and Other). In Table 4.4, means and standard deviations for Strategic Alignment, Organizational Alignment, Providing Input are presented by the sector in which the organizational member primarily operates

(Education; Health Care; Public Health; Parks, Recreation, Fitness, and Sports; Transportation; and Other). There were a limited number of organizational members primarily operating within the Transportation sector, however those organizational members had the highest mean scores for Strategic Alignment (31.6 out of 35), Organizational Alignment (24.7 out of 30), and Providing Input (18.6 out of 20). Similarly, there were very few organizational members from the Parks, Recreation, Fitness, and Sports sector, and they too had high mean scores for Organizational Alignment (24.7 out of 30), and Providing Input (17.3 out of 20).

A statistically significant relationship between organizational member involvement in a PA coalition and perceived coalition success was noted (Table 4.5). Results from the pooled t-tests showed statistically significant differences in the mean scores for all member involvement factors (Strategic Alignment, Organizational Alignment, and Providing Input) between “high” and “low” levels of perceived coalition success (Coalition Satisfaction and Coalition Outcome Efficacy). For example, the average Strategic Alignment score for those who reported high Coalition Outcome Efficacy was 5.1 points higher (95% CI 3.3, 6.9) than those reporting low Coalition Outcome Efficacy.

Discussion

The most significant finding of this study was the observation that measures of organizational member involvement in physical activity (PA) coalitions were significantly associated with perceived coalition success. This is an important finding in that it provides unique information about PA coalitions, the study of which is in its infancy. To the best of our knowledge, only one other study, by Litt, et al.[29], has

examined PA coalitions in the United States. That study provided important information on the characteristics and activities of PA coalitions but did not consider the perspective of member organizations and did not measure perceived coalition success. The present study extends the work of Litt, et al. by providing empirical evidence documenting associations between Strategic Alignment, Organizational Alignment, and Providing Input and perceived coalition success in PA coalitions. These associations indicate that, when organizational members of a PA coalition have strategic interests that closely align with the mission, vision, or goals of the coalition, it is likely that they will perceive the coalition as being successful. Similarly, when organizational members benefit from working with other organizations represented on the coalition, they too are to perceive the coalition as successful. Lastly, these associations indicate organizational members are likely to perceive the coalition as successful when they are able to have their viewpoints represented and lend their expertise to the coalition.

Findings of this study have practical relevance for those interested in developing and/or maintaining PA coalitions. For example, openly communicating with organizational members to fully understand *their* strategic interests, the types of organizations *they* would benefit from aligning with, and how *they* could lend their expertise and viewpoints to the coalition may be an important strategy for building successful PA coalitions. Another important strategy may be reviewing websites and printed materials of organizational members which could provide important details about their strategic interests and areas of expertise. These strategies may be particularly important when the organizational member does not have an immediately obvious interest in PA. For example, a state department of transportation likely does not have PA

as a core strategic interest, and may therefore not perceive how it aligns with a PA coalition. However, a practitioner who communicates with D.O.T. personnel may learn that the D.O.T.'s core interests lie in calming vehicle traffic patterns and minimizing injuries and deaths from traffic accidents. Understanding the D.O.T.'s perspective allows the practitioner to then demonstrate how PA initiatives such as Safe Routes to School and Complete Streets have been shown to ease vehicle traffic and reduce traffic accidents[30]. This may provide a compelling case for how becoming an organizational member of the PA coalition would benefit the D.O.T.'s strategic interests, organizational interests, and desire to have their viewpoints represented.

A second important finding from this study was the observed discrepancy between the high proportion of PA coalitions reportedly addressing initiatives related to the built environment (58%), and the small proportion of organizational members that primarily work in settings most likely to influence the built environment, such as Transportation (7%), and Parks, Recreation, Fitness & Sports (5%). This discrepancy is even more notable in light of the fact that organizational members from the Transportation, and Parks, Recreation, Fitness & Sports settings had some of the highest mean values for the measures of Strategic Alignment and Organizational Alignment. Given the recognized influence of the built environment on PA behavior[8, 31], findings from this study suggest that PA coalitions would benefit from engaging more organizational members that are heavily focused on elements of the built environment (e.g. roads, parks).

The current study has some notable strengths and limitations. The first strength of this study was the large and diverse sample of PA coalitions represented. Survey

respondents included a large sample of organizational representatives from national-, state-, and local-level PA coalitions. Those organizational representatives provided perspectives from a diverse range of organizational members including government agencies, non-profit corporations, for-profit corporations, and educational institutions. Second, this study employed an instrument with demonstrated validity and reliability to investigate PA coalitions. Multiple reviews of studies measuring coalition functioning have noted that a very small proportion of instruments used in those studies provided any information about their validity and reliability[15, 20]. There are some notable limitations to the current study. First, the cross-sectional nature of this study only provides evidence of an association between key factors for organizational membership in a PA coalition and perceived coalition success, and thus can not provide evidence of a causal relationship. Second, this study considers only one aspect of coalition functioning, organizational member involvement. Third, while findings from this study may have implications beyond PA coalitions, extrapolating the current findings to all health-based coalitions should be done cautiously. Finally, the current study included PA coalitions that varied markedly in stage of development, and our analysis did not differentiate between newly-formed coalitions and those that have existed for several years.

The current study suggests several future research directions. First, future studies should use the MIPAC survey longitudinally in a large sample of PA coalitions. A longitudinal study design would allow for investigating the presence or absence of a causal relationship between key factors for organizational membership and perceived coalition success in PA coalitions. Furthermore, a longitudinal design would allow for coalition success to be defined in terms of actual outcomes (e.g. policy and

environmental change, changes in population physical activity) not just perceived coalition success. Second, in order to develop a more complete understanding of coalition functioning, future studies should use the MIPAC survey with validated measures for other constructs related to coalition functioning such as: *Coalition staff expertise and performance*[24, 25]; *Leadership*[25, 26, 32]; *Management capabilities*[25]; *Task Focus*[24]; *Organizational climate*[26]; *Communication*[25]; and *Planning*[33]. Lastly, in order to be able to extrapolate the findings from this study beyond PA coalitions, consideration should be given to replicating the current study in a diverse sample of health-based coalitions.

In summary, organizational member involvement in coalitions and its relationship to coalition success has not been well studied in health-based coalitions generally or PA coalitions specifically[15, 29]. This study provides important, new insight into the key factors related to organizational membership in PA coalitions and on the relationship between those factors and perceived coalition success. This new insight can serve investigators interested in conducting subsequent studies aimed at measuring coalition functioning in PA coalitions, and possibly health-based coalitions more broadly. Additionally, results from this study suggest that coalition leaders and the coalitions they lead may be more likely to succeed when they can identify ways in which their coalition provides opportunities for strategic alignment, organizational alignment, and providing input to existing and perspective organizational members.

Table 4.1. Descriptive Characteristics of Organizational Members of Local-, State, and National-Level Physical Activity Coalitions (n=120)

	Local (%)	State (%)	National (%)	Total (%)
Type of organization				
For-Profit	8 (11)	3 (7)	1 (10)	12 (10)
Non-Profit	22 (33)	13 (30)	5 (50)	40 (33)
Govt. Agency	22 (33)	23 (51)	3 (30)	48 (40)
Educational Institution	12 (20)	3 (7)	0 (0)	15 (13)
Other	2 (3)	2 (5)	1 (10)	5 (4)
Sector in which organization primarily operates				
Education	14 (22)	10 (21)	1 (10)	25 (21)
Health Care	10 (16)	5 (12)	3 (30)	18 (15)
Parks, Recreation, Fitness & Sports	4 (6)	3 (7)	1 (10)	8 (5)
Transportation	5 (8)	4 (9)	0 (0)	9 (7)
Public Health	26 (39)	20 (44)	4 (40)	50 (41)
Other	6 (9)	3 (7)	1 (10)	10 (8)
Size (# of employees)				
0-5	5 (8)	9 (21)	3 (30)	17 (14)
6-20	10 (14)	3 (7)	1 (10)	14 (11)
21-50	8 (13)	4 (9)	0 (0)	12 (10)
51-100	5 (8)	7 (16)	1 (10)	13 (11)
> 100	35(53)	19 (42)	4(40)	58 (48)
Don't know	3 (5)	2 (5)	1 (10)	6 (5)

Table 4.2. Descriptive Characteristics of Local-, State-, and National-Level Physical Activity Coalitions (n=120)

	Local	State	National	Total
Area in which coalition is working*	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Urban	37 (57)	35 (81)	10 (100)	82 (68)
Suburban	38 (26)	32 (74)	7 (70)	77 (64)
Rural	26 (41)	27 (63)	5 (50)	58 (48)
Size of coalition (# of members)				
1-10	15 (23)	6 (14)	2 (20)	23 (19)
11-30	31 (48)	12 (28)	1 (10)	44 (36)
31-50	9 (14)	17 (37)	1 (10)	27 (23)
>51	7 (11)	7 (16)	5 (40)	19 (16)
Don't know	3 (3)	2 (5)	2 (20)	7 (6)
Settings in which coalition is working*				
Built environment	36 (56)	28 (65)	5 (50)	69 (58)
Schools	52 (81)	35 (81)	7 (70)	94 (78)
Parks , Recreation, Fitness & Sports	34 (53)	22 (51)	6 (60)	62 (52)
Health Care	22 (34)	14 (33)	5 (50)	41 (34)
Workplace	32 (50)	29 (67)	8 (80)	69 (58)
Public Health	35 (55)	19 (44)	9 (90)	63 (53)
Government	21 (33)	11 (26)	5 (50)	37 (31)
Faith Based	11 (17)	8 (19)	1 (10)	20 (16)
Other	2 (6)	3 (7)	2 (20)	7 (6)
Types of initiatives coalition is pursuing*				
Advocacy to promote active living	51 (80)	34 (79)	8 (80)	93 (78)
Changes to/formation of policy	39 (61)	27 (63)	5 (50)	71 (59)

	Local	State	National	Total
Area in which coalition is working*	Frequency (%)	Frequency (%)	Frequency (%)	Frequency (%)
Engaging/partnering with appointed/elected officials	29 (45)	23 (53)	6 (60)	58 (48)
Expanding network of partners	32 (50)	25 (58)	5 (50)	62 (52)
Identification of community needs	29 (45)	18 (42)	3 (30)	50 (42)
Expanding existing programs	32 (50)	18 (42)	6 (60)	56 (47)
Developing new programs	32 (50)	23 (53)	3 (30)	58 (48)
Strategic planning	24 (37)	19 (44)	6 (60)	49 (41)
Other	3 (5)	6 (14)	1 (10)	10 (8)

* Respondents could select more than one response.

Table 4.3. Means and Standard Deviations for Key Factors for Organizational Membership in a Physical Activity Coalition by Type of Organizational Member

	Type of Organizational Member									
	For Profit (n=12)		Non-Profit (n=40)		Government Agency (n=48)		Educational Institution (n=15)		Other (n=5)	
Variable (max score possible)	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Strategic Alignment (35)	30.38	5.87	32.28	3.11	30.65	3.84	27.4	5.54	30.17	3.06
Organizational Alignment (30)	25.25	3.39	24.12	3.54	23.3	2.83	21.8	4.07	25.86	4.14
Providing Input (20)	17	2.55	18	1.96	18	2.06	16.2	3.19	17.57	1.81

Table 4.4. Means and Standard Deviations for Key Factors for Organizational Membership in a Physical Activity Coalition by Sector in Which Organizational Member Operates

	Sector In Which Organizational Member Primarily Operates											
	Education (n=25)		Health Care (n=18)		Public Health (n=50)		PRFS (n=8)		Transporta- tion (n=9)		Other (n=10)	
Variable (max score possible)	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Strategic Alignment (35)	29.55	5.49	30.9	3.62	33.22	2.22	28.2	5.43	31.63	3.77	29	3.6
Organizational Alignment (30)	22.89	4.3	22.63	3.84	24	3.87	24.73	2.97	24.02	2.81	24.15	3.72
Providing Input (20)	16.93	2.8	17.14	2.1	17.22	2.53	17.27	1.9	18.55	1.93	16.61	2.26

Table 4.5. Differences in Key Factors for Organizational Membership in a Physical Activity Coalition Stratified by Measures of Perceived Coalition Success

Key Factors for Organizational Membership	Perceived Coalition Success					
	Coalition Satisfaction			Coalition Outcome Efficacy		
	High Mean (SD)	Low Mean (SD)	Difference (95%CI)	High Mean (SD)	Low Mean (SD)	Difference (95%CI)
Strategic Alignment	31.41 (3.89)	28.28 (5.03)	3.13 (1.44, 4.82)*	31.54 (3.71)	26.41 (4.85)	5.13 (3.32, 6.95)*
Organizational Alignment	24.41 (3.00)	21.39 (3.94)	3.01 (1.50, 4.52)*	24.37 (3.07)	20.29 (3.50)	4.09 (2.68, 5.49)*
Providing Input	17.87 (2.24)	16.83 (2.43)	1.04 (0.16, 1.93)*	17.94 (2.22)	16.21 (2.35)	1.75 (0.76, 2.73)*

* Statistically significant difference between high and low groups.

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CHAPTER 5

OVERALL DISCUSSION

Significance

Physical Activity levels of American adults and youth are perilously low[1, 2]. Attempts to increase population-levels of physical activity through interventions at the individual-level have proven to be insufficient in the absence of supportive physical, social, and policy environments [3, 4]. Achieving such broad environmental change cannot be achieved solely by government and may best be achieved by collaborative groups such as coalitions[5-7]. Coalitions are often comprised of member organizations such as for-profit corporations, non-profit organizations, and government agencies.

An extensive literature on health-based coalitions shows a dearth of reliable and valid instruments for measuring how coalitions function, and equivocal findings on the factors that contribute to coalition success[8, 9]. It has been suggested that “member involvement” may be a critical factor in determining coalition success[10-12], however the member involvement construct has yet to be elucidated sufficiently and measured properly. Physical activity coalitions are a subset of health-based coalitions. The prevalence of physical activity coalitions is on the rise, and understanding the attributes and activities of those coalitions is in its infancy[13]. Virtually nothing is known about factors related to member involvement in physical activity coalitions and whether or not member involvement is associated with coalition success.

Purpose

The overall purpose of this dissertation was to develop a comprehensive understanding of organizational member involvement in physical activity coalitions across the United States. The purpose of Study One of this dissertation was to identify factors related to organizational member involvement in the coalition that developed the National Physical Activity Plan for the United States. The purpose of Study Two was to develop and test the psychometric properties of a survey instrument for measuring factors related to organizational member involvement in physical activity coalitions at local-, state-, and national-levels. Study Three described the attributes and activities of local-, state-, and national-level physical activity coalitions from the perspective of organizational members. Study three also described factors related to organizational member involvement in physical activity coalitions and investigated the association between organizational member involvement and coalition success.

Design and Methods

A cross-sectional research design was employed for studies One, Two and Three. Study One used qualitative methods to identify emergent themes for organizational membership in the coalition that developed the National Physical Activity Plan (NPAP). Semi-structured phone interviews were conducted with fourteen key informants representing thirteen of the NPAP coalition's organizational members. Phone interviews were transcribed and coded by two separate coders in order to identify emergent themes for organizational membership.

Study Two occurred in three distinct phases. In phase one, a draft survey instrument was developed to measure factors for organizational member involvement in

physical activity coalitions. This draft survey was based on results from Study One and the literature on health-based coalitions. In phase two, the content validity of the draft survey was evaluated by a panel of individuals with expertise in physical activity coalitions and instrument development. The result from phase two was a survey instrument with demonstrated content validity; the Member Involvement in Physical Activity Coalitions (MIPAC) survey. In phase three, the MIPAC survey was administered to 120 individuals representing the interests of organizational members on local-, state, and national-level physical activity coalitions across the United States. Results from the MIPAC survey were subjected to an exploratory factor analysis in order to determine the underlying factor structure for the MIPAC and to assess the MIPAC's internal consistency reliability and construct validity.

Study three utilized data from the 120 respondents who completed MIPAC survey to provide frequencies and percentages of descriptive characteristics of local-, state-, and national-level physical activity coalitions and their organizational members. Additionally, mean scores were generated for key factors of organizational membership in physical activity coalitions. Lastly, pooled t-tests were performed to investigate differences in key factors for organizational membership by “high” and “low” levels of perceived coalition success.

Major Findings

Study One found that organizational members of the coalition that developed the NPAP identified five primary reasons for joining the NPAP coalition: 1) *Strategic Alignment*. Meaning the strategic initiatives of the organization (e.g. strategic plan, mission, vision, goals, objectives, projects, or plans) were congruent with the vision,

mission, and goals of the NPAP coalition; 2) *Organizational Alignment*. Meaning the organization recognized the importance of aligning with other organizations involved with the NPAP coalition; 3) *Providing Input*. Meaning the organization expected to lend expertise in developing the NPAP, and/or to ensure that their organization's viewpoints were represented in the NPAP document; 4) *Seminal Event*. Meaning development and launch of the NPAP was a significant event in which involvement was viewed by the organization as highly important; and 5) *Cost/Benefit Ratio*. Meaning the organization realized more positive than negative effects from having been involved in the NPAP coalition.

Study Two found that the MIPAC survey demonstrated sound psychometric properties. Results from exploratory factor analysis revealed that the MIPAC survey was comprised of three primary constructs each with a distinct subscale: Strategic Alignment, Organizational Alignment, and Providing Input. The MIPAC's Strategic Alignment, Organizational Alignment, and Providing Input subscales demonstrated high levels of internal consistency reliability with Cronbach's alpha scores of 0.94, 0.83, and 0.88 respectively. Additionally, the MIPAC's subscales demonstrated sufficient construct validity, each being significantly positively associated with previously validated subscales for Satisfaction with the Coalition, and Coalition Outcome Efficacy.

The most significant finding from Study Three was identification of a statistically significant association between key factors for organizational membership in a physical activity coalition (i.e. Strategic Alignment, Organizational Alignment, and Providing Input) and perceived coalition success (i.e. Coalition Satisfaction, and Coalition Outcome Efficacy). This dissertation produced the first valid and reliable instrument for

comprehensively measuring organizational member involvement in physical activity coalitions. Additionally, this dissertation found that organizational member involvement in physical activity coalitions is positively associated with high levels of perceived coalition success. The findings from this dissertation advance the field of coalition measurement in two important ways. First, the MIPAC survey helps fill the void of valid and reliable instruments for measuring health-based coalitions[refs]. Second, this dissertation provides the first known empirical evidence for an association between organizational member involvement and perceived coalition success in physical activity coalitions.

Limitations

There were several limitations of this dissertation. A limitation of Study One was the potential for selection bias with key informants representing organizational members from the NPAP coalition. Five of the NPAP coalition's 18 organizational members did not respond to repeated attempts to schedule an interview. It is possible that the experiences of those not interviewed differed from those who were interviewed. Additionally, there were multiple organizations that opted not to join the NPAP coalition as an organizational member. No attempts were made to interview key informants from those organizations. It is possible that those organizations would have offered unique insight into the organizational membership phenomenon.

A limitation of Study Two was in the exploratory factor analysis used. Exploratory factor analysis is limited in its ability to provide definitive conclusions about the relationship between observed variables and their underlying constructs. Had a significantly larger sample size been used, confirmatory factor analysis could have been

employed subsequent to the exploratory factor analysis to draw more definitive conclusions about the statistical relationship between the observed variables in the MIPAC survey and their underlying constructs. However, the sample size from this dissertation was substantially larger than most studies of health-based coalitions[12]. Furthermore, given that Study Two aimed to identify the underlying factor structure for the items in the MIPAC survey, exploratory factor analysis was the appropriate method to employ.

The greatest limitation of Study Three was that its cross-sectional design only allows for evidence of an association between organizational membership and coalition success. A longitudinal design would have allowed for investigating the presence or absence of a casual relationship between organizational membership and coalition success. However, evaluating coalition success longitudinally would likely take three or more years which was not feasible for this dissertation.

Practical Implications

Overall, the findings from this dissertation may help improve outcomes of physical activity coalitions by providing new understanding of factors related to coalition success. More specifically, this dissertation has practical implications for investigators interested in measuring physical activity coalitions and individuals interested in building and maintaining physical activity coalitions. Investigators interested in measuring physical activity coalitions can use findings from this dissertation in subsequent studies of physical activity coalitions to further our understanding of how physical activity coalition's function and the factors related to coalition success. Additionally, individuals looking to develop and maintain physical activity coalitions with highly committed

members may find use for the MIPAC survey's three subscales (Strategic Alignment, Organizational Alignment, and Providing Input). Those individuals and the coalitions they lead might benefit from identifying ways in which their coalition provides opportunities for strategic alignment, organizational alignment, and providing input to existing and perspective coalition members.

Findings from this dissertation may also have practical implications beyond physical activity coalitions specifically into health-based coalitions more generally. Given the lack of psychometrically sound instruments for measuring health-based coalitions, the MIPAC survey may prove to be a valuable tool for investigating organizational membership in health-based coalitions. If proven reliable and valid in a large sample of health-based coalitions, the subscales of the MIPAC survey may ultimately improve our ability to measure and subsequently improve the manner in which health-based coalitions function.

Considerations for Future Research

Findings from this dissertation suggest several future research directions for studying physical activity coalitions specifically, and health-based coalitions generally. The MIPAC survey that resulted from this dissertation provides an initial understanding of and means for measuring organizational member involvement in physical activity coalitions. Additional research is needed to further test the psychometric properties of the MIPAC survey and to further investigate the relationship between member involvement and coalition success in physical activity coalitions. First, future studies should use larger sample sizes to allow for more rigorous tests of the MIPAC's psychometric properties. Those studies should consider perspectives of physical activity coalition leaders and staff,

given that this dissertation was restricted to perspectives of physical activity coalition members. Second, future studies should consider longitudinal designs in order to investigate the presence or absence of a causal relationship between member involvement and coalition success in physical activity coalitions. Finally, future studies should consider combining the MIPAC survey with other valid and reliable instruments for measuring different aspects of how coalitions function. Combining the MIPAC survey with other such surveys will allow investigators to determine the relative importance of member involvement in predicting coalition success as compared to other aspects of coalition functioning in physical activity coalitions.

This dissertation was limited to physical activity coalitions. Future studies are needed to investigate whether the constructs identified in the MIPAC survey are applicable to coalitions focused on other aspects of public health. Future studies should consider replicating the mixed-methods approach utilized in this dissertation to develop and test an instrument for measuring organizational member involvement in health-based coalitions.

Conclusion

The MIPAC survey was determined to be psychometrically sound, having demonstrated high values for internal consistency reliability and construct validity. The MIPAC survey's Strategic Alignment, Organizational Alignment, and Providing Input subscales offer an innovative, comprehensive means for evaluating organizational member involvement in physical activity coalitions. Strategic Alignment, Organizational Alignment, and Providing Input were all positively associated with perceptions of

coalition success. Future efforts are needed to further validate the MIPAC survey within physical activity coalitions specifically and health-based coalitions broadly.

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CHAPTER 6

PROPOSAL

Introduction

Increasing population levels of physical activity is recognized as one of the great public health challenges of the 21st Century[1], and meeting this challenge requires comprehensive change to policies, systems, and environments. Effectively making comprehensive change cannot be achieved by government alone, and such change may best be accomplished through collaborative efforts amongst diverse groups of partners[2-8]. Therefore, the prevalence of physical activity-based coalitions is on the rise as are calls to evaluate them. Although an extensive literature on evaluating public health coalitions in other domains (e.g. tobacco control, obesity, at-risk youth) does exist, this literature has not offered definitive conclusions about what makes for an effective coalition. However some lessons learned from that literature can be applied to efforts to evaluate physical activity-based public health coalitions which are currently in their infancy. Being able to understand why and when physical activity coalitions (PACs) succeed or fail is central to efforts aimed at increasing population levels of physical activity. Traditionally, evaluations of coalitions in public health have focused primarily on factors at the coalition-level (e.g. resources, leadership, staff support, task focus) and the environmental-level (e.g. political or community climate), and such efforts have failed to draw definitive conclusions on why or why not these coalitions succeed [9].

Recent efforts to evaluate community-based public health coalitions, not necessarily focused on physical activity, have illuminated factors related to partner involvement. For example, factors related to why or why not an organization joins a coalition is thought to be a critical determinant of coalition success[10-12]. An emerging literature from business administration points to similar partner-level factors for predicting success or failure of strategic partnerships within the for-profit sector [13, 14]. Greater understanding of partner-level factors, and the extent to which they may explain success of PACs, is critical to more fully evaluating and improving such coalitions.

Development and release of the U.S. National Physical Activity Plan (NPAP) represents a successful initiative led by a national-level coalition comprised of a diverse group of members, including non-profits, government agencies, and for-profits [15]. Success has been defined as the extent to which a coalition achieves its goals or mission[16]. In the case of the NPAP, the initial goal was to develop and launch a national physical activity plan for the United States[17]. That goal was met in March, 2010 when the NPAP was launched at a press event in Washington, DC[17]. Having an in-depth understanding of the processes behind why and how each member decided to join and remain committed to the NPAP will illuminate possible key factors related to member involvement that may explain why and when PACs succeed.

No instrument currently exists for fully evaluating member involvement in public health coalitions generally or PACs specifically. The outcome of this dissertation will be a rigorously developed instrument for measuring member involvement in PACs. The potential utility of such an instrument is threefold. First, it will be useful in better-evaluating existing state and local level PACs within the U.S., something the CDC has

recognized as a critical need [18]. Second, it could be used to better-evaluate national-level physical activity coalitions in other countries. Third, newly-developing PACs could administer the instrument to potential member in order to determine the level of involvement those members are likely to demonstrate.

Aims and Hypotheses

Coalitions have been shown to play a critical role in development and advancement of public health policies that ultimately improve population health. The overall goal of this study is to increase population levels of physical activity through improving the functioning of coalitions focused on physical activity. The study of physical activity coalitions is in its infancy and therefore little is known about the factors most responsible for their success or failure. Research from the field of community-based public health coalitions and research on partnerships in the for-profit sector have both highlighted the potential importance of “member” or “partner” involvement in determining coalition success. However both fields recognize the need to better understand and measure member involvement. Having an instrument to validly and reliably assess member involvement in physical activity coalitions will allow for more complete understanding of those coalitions which will lead to improvements in their functioning. The following specific aims describe the process for developing and testing an instrument to measure member involvement in physical activity coalitions focused on physical activity.

Aim 1: To Identify the Factors That Influenced Member Organizations’

Involvement in Development of the U.S. National Physical Activity Plan

Objective 1a: Identify (1) why member organizations chose to become involved in the NPAP; (2) the process by which organizations made the decision to become a NPAP member; (3) what each organization’s expectations were for being involved in developing the NPAP; (4)

why each organization has chosen to stay involved with the NPAP,
(5) what effect being a NPAP member has had on each organization.

Aim 2: To Develop and Test the Validity and Reliability of an Instrument to Assess Member Involvement in Physical Activity Coalitions

Development

Objective 2a: Convene a group of experts in survey/scale development to generate a pool of candidate items for each factor identified as possibly being related to member involvement in a physical activity coalition based upon results from Study 1.

Objective 2b: Convene a group of physical activity and public health experts, with particular expertise in physical activity policy and physical activity coalitions, to assess the content validity of each candidate item and the survey as a whole.

Objective 2c: Produce a content valid survey to assess member involvement in physical activity coalitions.

Goal 2a: A content-valid survey will be produced and will contain a minimum of five candidate items per factor that can be subjected to further reliability and validity testing.

Validity and Reliability Resting

Objective 2d: Sample from a large group of individuals ($n = 800$) who are likely to be members of a physical activity coalition at the state or local level, throughout the United States to complete the member involvement survey.

Objective 2e: Have 50% of individuals (n = 400) complete the survey in order to conduct an exploratory factor analysis (EFA) to determine the number of constructs underlying the member involvement survey.

Objective 2f: Conduct an exploratory factor analysis in order to: achieve simple structure for the survey; test the internal consistency reliability of the survey; and test the construct validity the survey.

Hypothesis 2a: Simple structure amongst the survey items will be achieved, successfully identifying the number and relationship of constructs underlying the scale.

Hypothesis 2b: The survey will demonstrate sufficient inter-item consistency reliability ($\alpha > 0.70$) and scale items will demonstrate appropriate construct validity.

Aim 3: To Produce a Detailed Description of National, State, and Local Physical Activity Coalitions from the Perspective of Their Members in Order to Inform Future Research and Practice Aimed at Enhancing the Success of National, State, and Local Physical Activity Coalitions

Objective 3a: Describe physical activity coalitions from organizational members' perspectives.

Objective 3b: Summarize organizational members' motives for committing to a physical activity coalition.

Significance of the Proposed Study

This project has immediate practical implications. The CDC and NIH are calling for translational methods to bridge the gap between research and practice[19].

Achievement of the proposed aims of this project can potentially offer physical activity researchers and practitioners an instrument that will advance their efforts to develop and evaluate coalitions focused on improving physical activity levels across the population. Previous research has failed to produce valid and reliable measures for evaluating public health coalitions, and has failed to draw definitive conclusions about the factors most likely responsible for coalition success, leading to calls for better tools for assessing coalitions[9]. Despite recent evidence on the potential relevance of factors related to member involvement in understanding coalitions, many proposed models of coalition functioning either inadequately describe the member involvement phenomenon, or exclude it altogether [16, 20], and no instruments for measuring member involvement in physical activity coalitions currently exist. This project aims to develop a valid and reliable instrument for measuring member involvement in physical activity coalitions. Understanding and measuring member involvement of physical activity coalitions may help strengthen existing and future coalitions focused on solving critical problems associated with low physical activity across the population.

Limitations

The coalition that developed the U.S. National Physical Activity Plan (NPAP) will serve as a case study for identifying member-level factors in a physical activity coalition, as described in Aim 1. It is possible that the factors related to member involvement of organizations committed to a national-level physical activity coalition may differ from and thus not transfer to member of state and local level physical activity coalitions. However, recent evidence on the potential importance of member involvement in describing public health coalitions, and partnerships in the for-profit sector, has

considered coalitions/partnerships at local, state and national levels, suggesting that these factors may be ubiquitous across these three levels[13].

In qualitative methods, it is important to reach a point of “saturation,” where the themes emerging from the data eventually become redundant, demonstrating that the themes that emerged are exhaustive[21, 22]. The NPAP coalition, during its development phase, was comprised of sixteen member organizations, each of which appointed an individual to represent that organization on the coalition. Those individuals will serve as the primary sample from which we will draw participants for conducting qualitative interviews. Although attempts will be made to interview each of the sixteen representatives, and attempts will be made to interview others from within their organizations whom may provide additional input, it is possible that the limited number of interviews will not provide enough data to reach a point of saturation. Given that the nature of this project is relative narrow in scope, endeavoring to fully understand only factors related to member involvement, as opposed to the myriad of other factors that have been proposed in measuring coalitions, it is likely that even a limited number of interviews will allow for saturation to be reached.

The exploratory factor analysis proposed in Aim 2 will require a sample size of 5 or more participants per unique item per construct of partner involvement. Furthermore, a scale must have a minimum of three items per construct. Hence, a scale with 7 proposed constructs, and 3 items per construct, will require a minimum sample of 105 participants in order to conduct exploratory factor analysis. At this time, it is not possible to know the number of themes that will emerge from the qualitative analysis in Aim 1, which will then serve as the proposed constructs for the scale development and testing described in

Aim 2. Hence it is not possible to know what the sample size will need to be in order to successfully complete Aim 2. The principal investigator of a recent study of 59 state and local level physical activity coalitions has agreed to let us administer our scale to the members of those coalitions. While we don't know the exact number of partner organizations per coalition, the mean number of "actively participating partners" across the 59 coalitions was 24. Therefore, we anticipate having a possible pool of 1,416 members of physical activity coalitions. Successful recruitment of roughly 15% should provide an adequate sample on which to administer the member involvement scale and subsequently conduct an exploratory factor analysis.

Review of Literature

Physical Activity and Health

The *Surgeon General's Report on Physical Activity and Health* and the *Physical Activity Guidelines Advisory Committee Report* are two landmark documents that summarized over five decades worth of evidence on the health benefits of regular physical activity[23, 24]. Together, those documents describe the strong inverse association between physical activity and all-cause mortality, cardiovascular disease, hypertension, cancer, and Type 2 diabetes mellitus. Additionally, those documents summarize the evidence that regular physical activity promotes muscle strength and joint function, relieves symptoms of depression and anxiety, reduces body fat, protects older adults from falls, and improves overall quality of life. Perhaps most importantly, the evidence shows that achieving the health benefits of regular physical activity does not require long bouts of high intensity exercise.

The 2008 Federal Physical Activity Guidelines for Americans recommend that American adults obtain 150 minutes per week of moderate-intensity aerobic activity, or 75 minutes per week of vigorous-intensity aerobic activity, or some equivalent combination of moderate- and vigorous- intensity aerobic activity, performed in bouts of 10 minutes or more[25]. The Guidelines go on to say that additional activity will bring increased health benefits and that adults should perform muscle strengthening exercises two days per week. The Guidelines make separate recommendations for Children and Adolescents, and Older Adults. The recommendations for Children and Adolescents are essentially double that of adults, recommending 60 minutes per day of physical activity, most of which should be of moderate, or moderate-to-vigorous intensity aerobic activity, and which should include muscle and bone strengthening exercises. For Older Adults, the Guidelines suggest following the same 150 minutes per week recommendation as for adults, but include additional recommendations for those unable to meet the 150 minutes per week because of decline in physical ability.

Importantly, the physical activity guidelines that resulted from strong evidence on the relationship between physical activity and health suggest that very modest changes to the typical American lifestyle (e.g. three 10 minute bouts of activity/day) could yield substantial individual and public health benefits. However, the public health goal of having the vast majority of Americans regularly meeting or exceeding physical activity guidelines remains elusive.

The Global Burden of Physical Inactivity

The public health problem of physical inactivity is not restricted to the U.S. Inactivity is responsible for more than 5.3 million of the 57 million deaths that occurred

worldwide in 2008[26], leading to physical inactivity recently being labeled a “global pandemic”[27]. Even modest decreases in global inactivity of 10% or 25%, would account for a decrease of more than 533,000 or 1.3 million deaths respectively every year [26]. Government alone cannot realistically tackle this pandemic of inactivity. National policies and action plans, such as the U.S. National Physical Activity Plan, are designed for mobilization of both governmental and non-governmental collaboration towards advancement of physical activity and reduction of physical inactivity [27]. Hence the solution to physical inactivity nationally and globally, may lie within physical activity coalitions comprised of diverse partners from within and outside of government.

Relationship between Physical Activity and Obesity

In 2009-2010 more than one-third of U.S. adults and nearly 17% of American youth were obese[28]. After steadily climbing for decades, obesity rates have begun to level off in certain segments of the American population[28], however public health goals to lower obesity rates remain unmet[29]. In addition to the myriad of health consequences of overweight and obesity, the economic impact is staggering. In 2008 dollars, medical care costs of obesity in the United States totaled roughly \$147 billion[30].

There is a dose-response relationship between volume of physical activity and decrease in total body adiposity and abdominal adiposity in individuals who are overweight or obese[23]. Performing regular physical activity in the range of 13 to 26 MET-hours per week, in the absence of restriction in calorie intake, results in decreases in adiposity consistent with improvements in metabolic function[23]. Consistent with current physical activity guidelines, walking at a 4 mile per hour pace for a total of 150

minutes per week, or jogging at 6 mile per hour pace for 75 minutes per week is generally equivalent to 13 MET-hours per week. While great emphasis has been placed on the public health problem of obesity, and regular physical activity may improve body weight status, it is also important to recognize the positive health impacts of regular physical activity in absence of any change in body weight status. For example even slight improvements in cardio-respiratory fitness, which can be achieved by moving from a predominantly sedentary lifestyle to meeting the current physical activity guidelines, confer a myriad of health benefits [31, 32] and reduce the risk of all-cause mortality by as much as 50%[33].

Prevalence of Physical Activity in the American Population

Despite the introduction of landmark documents such as the *1996 Surgeon General's Report on Physical Activity and Health* and the *2008 Physical Activity Guidelines for Americans*, the American population remains highly inactive[34, 35]. Depending upon the types of measurement employed, objective measures (e.g. accelerometry) or subjective measures (e.g. self-reported physical activity), nationally representative samples of the American population produce widely disparate estimates of the population prevalence of physical activity. In either case however, the majority of Americans do not meet current physical activity guidelines. When measured objectively through the 2003-2004 National Health and Nutrition Examination Survey (NHANES), the estimates of the number of American adults (20-59 yrs) meeting physical activity guidelines of 150 minutes per week of moderate activity was 3.5%[34]. 2003-2004 NHANES estimates of the percentage of American youth meeting the 60 minutes per day guideline were 42.0%, 8.0% and 7.6% for boys and girls ages 6-11 yrs, 12-15 yrs, and

16-19 yrs respectively [34]. Subjective estimates from the 2001 Behavioral Risk Factor Surveillance System (BRFSS) suggest that 45% of American adults were active at recommended levels[35]. Self-reported physical activity of American youth from the 2009 Youth Risk Behavior Survey (YRBS)[36], showed that 18.9% of high school students obtained the recommended 60 minutes per day of activity. Hence regardless of the surveillance methods employed, the number of Americans meeting physical activity guidelines remains perilously low, presenting a complex set of individual health, public health, and economic challenges requiring an equally complex series of solutions to overcome those challenges[37, 38].

Impact of the Social and Physical Environments on Physical Activity and Health

Attempts to increase population levels of physical activity through interventions targeting individual-level behavior change have been insufficient[39]. Therefore, greater emphasis must be placed on intervening upon the environmental determinants of physical activity[40-43], given the relative importance of the environments in which people live, work, play, learn, and commute, in explaining individual physical activity behavior. The *Guide to Community Preventive Services* explains the social determinants of health as societal conditions that affect health and can potentially be changed by social and health policies and programs, proposing three broad categories of social determinants: (1) Social institutions - including cultural and religious institutions, economic systems, and political structures; (2) Surroundings - including neighborhoods, workplaces, towns, cities, and built environments; and (3) Social relationships - including position in social hierarchy, differential treatment of social groups, and social networks[44]. These determinants/environments can impact health in a variety of ways including: Serving as a

medium of disease transmission; Operating as a stressor; Functioning as a source of safety or danger; Serving as an enabler of health behavior; and Serving as a provider of health resources[45]. Furthermore, these social determinants of health often disproportionately adversely affect those of lower socioeconomic status, widening existing health disparities[46].

Perhaps most relevant to the discussion of physical activity and health is the idea that the environment can serve as an enabler of health behavior. Blankenship et al developed a framework to identify the three components or elements of a “health-promoting environment” including: Availability (e.g. behaviors, tools, equipment, materials, and settings; Acceptability (e.g. altering social norms and social expectations); and Accessibility (e.g. addressing the role of social, economic, and political power and resources)[47]. Building upon Blankenship’s model, Cohen et al proposed employment of “structural interventions” to change the environmental factors that influence health behavior and that alter conditions outside the control of the individual. Cohen et al described four key “environmental targets” for altering the social and physical environments: (1) Availability/accessibility of consumer products that are associated with health outcomes (positive or negative); (2) Physical structures – characteristics of structures or products that inherently reduce or increase opportunities for healthy behaviors and outcomes; (3) Social structures – laws or policies that require or prohibit behaviors; and (4) Cultural and media messages – messages that people see and hear frequently through large and small media[48].

Given the importance of the environment in explaining physical activity behavior, it is not surprising to learn that attempts to initiate and maintain changes in physical

activity behavior through individual-level interventions have been largely unsuccessful. As depicted in *The Community Guide, Promoting Health through the Social Environment*, physical and social environments don't exist independently of one another. Any environment is the result of the continuing interaction between natural and man-made components, social processes, and the relationships between individuals and groups[39]. Numerous conceptual models have been proposed to graphically capture the nature of the interrelationship amongst these components[49-53], and the physical, or “built” environment specifically has received considerable attention in the physical activity literature.

The built environment has been described as the totality of places built or designed by humans, including buildings, grounds around buildings, layout of communities, transportation infrastructure and parks and trails[54], and significantly impacts recreational/leisure-time (e.g. walking or playing in parks), occupational (e.g. stair availability or presence/absence of showers), and transportation-based (e.g. walking/cycling to school or work) physical activity[55]. With regard to active transportation for example, a Swedish study showed that individuals using public transportation tended to be more active and less likely to be overweight and obese than adults who did not use public transportation[56]. Within the U.S., Moudon and colleagues found that 29% of those who used transit were physically active for 30 minutes or more each day than those not using transit, solely by walking to and from public transit stations[57]. And not surprisingly, recreational physical activity of adults, adolescents, and children has consistently been shown to be positively impacted by the availability of and proximity to recreation facilities. Interventions are most effective

when they alter the person, the social environment, the built environment, and policies[41]. Attempting to motivate a person to change in environments that present multiple barriers will likely be ineffective, as will the provision of supportive environments in the absence of educational interventions promoting use of those environments[42]. While they may not make specific reference to Cohen and colleagues' model, many physical activity coalitions are focused on the "environmental targets" of structural interventions to increase access and lower barriers to opportunities for regular physical activity[58].

Importance of Policy in Altering Environmental Factors to Increase Population Physical Activity

The ten great public health achievements of the 20th century, such as seat belt laws or regulations governing permissible exposure in the workplace, were influenced by policy change[59]. "Policy" has been referred to as a legislative or regulatory action, rule, or standard by federal, state, city, or local governments, governmental agencies, or nongovernmental agencies such as schools or corporations[60]. Based on this definition of policy, examples of policy makers could include an elected or appointed official within government, a business owner in the private sector, an elementary school principal, or a local urban planner. Hence a policy maker with regard to physical activity could be any individual with the ability to influence an environment in which individuals could either be encouraged to or discouraged from being physically active.

A key difference between individual-level health and population-level approaches for improving health is that public health interventions often occur at multiple levels[61], and thus require complex solutions often involving policy change[62-65]. In the case of

physical activity for example, if increasing physical activity across the population was as simple as giving each individual member of the population information about and skills for how to become and stay more physically active, the only conceivably necessary policies would relate to the most efficient and effective means for delivering such information and teaching such skills. Knowing however that impacting population levels of physical activity is not as simple as improving individual skills, being significantly impacted by the social and physical environments surrounding individuals, the implications for policy become both more important and more complex. Hence calls for intervening on the policies to change the social and physical environment are consistently being made and evidence of their effectiveness have begun to surface[42, 49, 66].

Examples of changes in policy yielding positive outcomes for creating more physical activity-friendly environments exist throughout the physical activity policy literature. For example, several states within the U.S. benefited from federal policies such as the Inter-Modal Surface Transportation Equity Act, or the Americans with Disabilities Act, which provided language and/or fund allocation supporting the development of walking trails[67, 68], which can facilitate regular physical activity by reducing barriers such as cost, inconvenience and inaccessibility[69]. Policy changes resulting from federal legislation have tremendous reach, but may take years or decades to enact[63]. On a more immediate scale, policy changes within worksites have demonstrated positive changes to the social and physical environments, leading to increases in daily physical activity of large percentages of employees[70].

Development of policies however does not necessarily result in positive environmental change. An analysis of state-based legislation for physical education in

schools from 2001-2007 revealed that 781 physical education bills were identified as being introduced into legislation during that time. However, of those introduced, 163 were enacted, only 139 “required” action, and very few used the evidenced-based elements (e.g. quantity of time in P.E., amount of time spent being active in P.E.) likely to yield measurable change[71]. Hence efforts to alter environments must move from making the epidemiological case to developing evidence-based policy recommendations, to lobbying or advocating for policy change, and then to enacting change and measuring its impact. Physical activity coalitions have potentially important roles to play in all of the aforementioned efforts to alter environments, and their role in the policy process will be addressed below.

Physical Activity Plans as Vehicles for Policy Change

Recognizing the important role of physical activity in population health, in 2004 [72]the World Health Organization called upon its member states to develop national physical activity plans[73]. These plans aim to increase population levels of physical activity by making evidence-based recommendations to changes in policy and practice across a broad range of settings. In some cases, national plans were developed by government alone, while in other cases national plans were the product of private/public collaborative partnerships, involving government agencies, but not necessarily driven by them[72]. The U.S. National Physical Activity Plan (NPAP) was developed through a collaborative effort involving government agencies, non-profits, for-profits, and academics. The NPAP was led by an informal coalition of organizations, Organizational Partners, that made financial and in-kind contributions to development of the plan[17].

National physical activity plans from many countries have accompanying “action plans,” which make explicit the actions to be taken by specific organizations or groups in order to implement the policy and practice recommendations made in the initial plan[17]. Missing however from many national plans is a formally evaluate the plan[72]. Some countries monitor population levels of physical activity which is a logical outcome measure, but one that may be too distal or “downstream” for identifying the systems and environmental changes likely to precede actual changes in physical activity behavior across the population. Hence efforts to evaluate national plans might need to focus on more proximal or “upstream” processes outcomes, such as efforts to develop and/or advance physical activity policy[74]. In the U.S. for example, Diffusion of Innovations theory is being employed to evaluate proximal outcomes and impacts of the NPAP are underway in three areas: (1) Summarizing the year-one activities of “Sector Teams” responsible for spearheading implementation of the NPAP; (2) Conducting case studies of U.S. States to assess if and how the NPAP is being used at the state level; (3) Surveying members of a national network of physical activity practitioners to assess the impact of the NPAP on their work in developing and implementing physical activity policies and programs at state and local levels[75].

Theories of the Policy Process

Theories abound on the process through which policy change occurs, and most propose theory within the context of a single political system or set of institutional arrangements[76]. Through the mid-1980s the prevailing theory was Laswell’s Stages Heuristic[77, 78] which conveniently divided the public policy process into four stages: agenda setting, formulation, implementation, and evaluation. Agenda setting is the issue

sorting stage during which a small number of the many problems societies face rise to the attention of decision-makers. In the formulation stage, legislatures and other decision making bodies design and enact policies. In the implementation stage, governments carry out these policies, and in the evaluation stage impact is assessed[76]. In the late 1980s however the Stages Heuristic came under criticism for its oversimplification of the policy process, failing to consider the broader set of factors considered important by many political scientists, thus giving way to such theories as the Multiple-Streams Framework, and the Punctuated- Equilibrium Framework.

In 1984, John Kingdon proposed the multiple-streams framework, viewing the policy process as being comprised of three streams of actors and processes. First is the problem stream which consists of information about the various problems and the proponents of various problem definitions. Next is the policy stream which involves the proponents of and solutions to policy problems. Third is the politics stream which considers the role of elections and elected officials[76]. The three streams typically operate independently of one another, however at critical points in time, called policy windows, “policy entrepreneurs” couple the streams together, often resulting in major policy change. Kingdon further defines policy windows as “opportunities for advocates of proposals to push their pet solutions, or to push attention to their special problems[79].”

The punctuated-equilibrium framework, originally developed by Baumgartner and Jones in 1993 posits that policymaking is typified by long periods of incremental change punctuated by short periods of significant policy change. This concept of stasis and occasional drastic change is related to two elements of the policy process, issue definition

and agenda setting. As described by True, Baumgartner and Jones “as issues are defined in public discourse in different ways, and as issues rise and fall in the public agenda, existing policies can be either be reinforced or questioned[80].” When policies are reinforced, significant obstacles to change prevail. However, the questioning of policies (e.g. questioning the impact of ‘No Child Left Behind’ on physical education in schools, or the impact of transportation policies that favor vehicle traffic over bicycle and pedestrian traffic) creates opportunities for major reversals in the outcomes of policies[80].

Although subtly different in describing the manner in which policy process unfolds, each of these theories suggests the importance “actors” in the policy process. While these theories focused primarily on actors (e.g. legislators) within a given political systems (e.g. the federal government) political scientists and scholars in the field of health policy have more recently begun to acknowledge a shift in the nature of policy and policy-making, which now includes a much larger range of actors who influence the policy process[81]. Specifically, the health policy process is said to involve actors from the private sector, such as for-profit and not-for-profit organizations, both large and small, and partnerships between the public and private sector have changed the policy environment[81]. Similarly, the field of public health is seeing tremendous growth in the numbers and types of collaborative efforts between the public and private sector, as calls for such partnerships have increased given the recognition that government alone cannot solve the complex problems posed by improving the public’s health[2, 8, 82]. In fact, the NPAP is one example of just that, a private/public collaborative partnership, or coalition, focused on improving the nation’s health. While physical activity coalitions are relatively

new to the public health field, there is a long history of community-based coalitions focused on solving critical public health problems[9, 10].

The Role of Coalitions in the Policy Process

While policy theories differ in describing the complexity of the policy process (e.g. exactly when and why policy change occurs), consistent amongst those theories is the notion that there are indeed stages or phases to that process and that there are numerous actors (e.g. individuals or groups) who influence that process. As initially described by Laswell's stages heuristic, there are four stages in the policy process; the agenda setting stage, formulation stage, implementation stage, and evaluation stage. Coalitions are likely important actors with the ability to have influence over any stages in the policy process. For example, Roussos and Fawcett described community health coalitions as groups focused on improving conditions and outcomes related to health and well being of communities by employing hybrid strategies that include social planning, community organizing, policy advocacy, and generally acting as a catalyst for community change[83], all of which conceivably fit into Laswell's four stages.

Additionally, when coalitions engage in policy advocacy, often working to frame issues in order to influence policy agenda, they clearly conceptually fit within the multiple streams frameworks' and the punctuated equilibrium theory. Within the multiple streams framework, when coalitions focus on policy advocacy, they become key players in the *problem stream* and may become the *policy entrepreneur* that ultimately pushes for policy change. As defined by Zahariadis, the problem stream "consists of various *conditions* that policy makers and citizens want addressed"[76] (e.g. budget deficits, rising medical costs, or health pandemics). Policy makers often are alerted to conditions

through indicators, focusing events, or feedback[76]. Indicators “may be used to assess the existence and magnitude of a condition...and can be used ‘politically’ to measure the magnitude of change in the hope of catching official attention.[76]” Physical activity coalitions seeking policy change to modify the built environment for example, may use indicators not specifically related to their outcomes of interest (e.g. vehicle traffic congestion and traffic safety), in order to highlight particular conditions that policy makers and or citizens want addressed. For example, if a city mayor is concerned with the *condition* of traffic safety, the physical activity coalition could use data or “indicators” linking improvements in the built environment that yield both a decrease in vehicle accidents and promote a more physically active lifestyle through increased opportunities for bicycle and pedestrian traffic[84].

Another example could be an elementary school principal and school board concerned with student performance in the classroom, and wanting to enact policies to improve that performance. The local physical activity coalition, wanting to improve opportunities for physical activity in schools, can act as a policy entrepreneur, using data on the positive correlation between classroom physical activity breaks and improved on-task classroom behavior[85] to push for policies that require regular physical activity breaks throughout the school day. Hence physical activity coalitions acting within the problem stream may make use of indicators not directly related to physical activity outcomes in order to push for policy change that ultimately improves population levels of physical activity. Perhaps more powerful than the use of indicators, is the use of focusing events in highlighting problems that set an agenda leading to policy change.

Focusing events are events that garner significant attention across the population, the most extreme example of which could be the 9/11 terrorist attacks[86, 87]. Hence focusing events, within the context of the multiple streams framework raise such a level of concern that the problem, politics, and policy streams converge, effectively opening the “policy window” where policy entrepreneurs can be positioned to create policy change. Similarly, within the context of punctuated equilibrium theory, events such as this effectively become the punctuation mark for creating policy change in an area that up until that point had been relatively static. In the wake of the 9/11 attacks for example, immediate and significant attention was paid to issues of national security which subsequently opened the policy window that ultimately yielded multiple changes in domestic and foreign policy.

Few focusing events may be as galvanizing as the 9/11 attacks, and thus may require greater efforts from policy entrepreneurs in creating change. Hence while coalitions may not control if and when focusing events occur, after their occurrence coalitions may seize such events as opportunities to act as policy entrepreneurs, using “agenda setting” and “framing” to push for policy change. In these instances, coalitions, or members thereof, seek to *frame* media messages, which subsequently may impact the thoughts and opinions of the general public and may subsequently *set an agenda* for the policy makers (e.g. elected officials) representing those members of the public[88]. Additionally, coalitions may use focusing events to go directly to policy makers and advocate for change (Figure 1 see Zahariadis p. 71), referred to as “political manipulation[89].”

Although the political science literature may not directly confirm the concepts of a coalition acting as a policy entrepreneur, defining issues and setting agenda, the concepts are supported by the health policy literature and public health promotion literature. As described by Walt, et al. regarding health policy, “policy networks are clusters of actors with interests in a given policy sector, and the capacity to help determine policy success or failure[81].” Within public health promotion, although not specific to groups focused exclusively on policy, coalitions have been described similarly to policy networks. Feigherty & Rogers defined a coalition as “an organization of individuals that represent diverse organizations or constituencies that agree to work together for a common objective[90]” and Butterfoss, Goodman and Wandersman defined a coalition as “an organization of different interest groups which combine their human and material resources to achieve a specific change that could not be accomplished otherwise independently[10].” Naturally, “specific change” could mean policy change.

One concrete example of public health depicting coalitions as actors in the policy making and policy implementing processes can be found in the CDC’s Nutrition, Physical Activity and Obesity (NPAO) program. Funded by the U.S. Congress in 1999 the NPAO program provided resources to help states develop partnerships with diverse stakeholders (e.g. coalitions), such that resources of those partnerships could be further leveraged in developing programs that focus on policy, environmental and behavioral approaches to preventing obesity chronic disease[91].

Measuring Coalitions in Public Health

A brief history of public health coalitions: The roots of coalitions in the United States can be traced as far back as the 1700s, when Benjamin Franklin brought together a diverse group of friends, including cobblers, merchants, wood workers, and printers, in an effort to help themselves and their community[16]. In the 1800s, led by such individuals as Harriett Tubman, community-organizing movements began, focusing on improving the health and quality of life for American citizens[16]. Throughout the 19th and 20th centuries and into today, community organizing has continued, and has included three basic approaches: campaigns, grassroots organizing, and coalition building. Frances Butterfoss' definition of coalition building is both comprehensive and concise and is thus directly quoted below.

Coalition building efforts seek to unite existing groups, such as churches, schools, and civic associations, to pursue a common agenda more effectively. Because coalitions often rely on existing leadership, they are sometimes derisively called grass tips organizing. Powerful, multi-organizational groups and coalitions with track records have the potential to become significant long-term change agents. These groups have become increasingly sophisticated in attracting allies, developing community cohesion, and marshalling power, not only locally but also on regional, state and national levels. This kind of organizing is based in geographic communities or communities of interest; is decentralized according to sectors and identity groups; has democratic processes and goals; and is funded most often by voluntary sources[16].

Coalitions focused specifically on issues of public health grew out of the recognition that individual behavior is inextricably linked to the environment, and that health promotion should therefore be conducted at the community level. Well-known public health interventions from the 1980s and 1990s such as the *Stanford Five City Project*[92] and the *Minnesota and Pawtucket Heart Health Programs*[93, 94], were NIH funded initiatives that used community advisory boards to develop and carry out community-based strategies for preventing cardiovascular disease. While not coalitions per se, these community advisory panels utilized many strategies employed by today's public health coalitions[16], such as synergistic cooperation between community entities towards a shared goal[95].

Over the last twenty years, federal health agencies such as the National Institutes of Health and the CDC, as well as private foundations such as the Robert Wood Johnson Foundation and the W.K. Kellogg Foundation have invested hundreds of millions of dollars in coalition development as a health promotion intervention[96, 97]. The funding to support such initiatives at local, state, and national levels is attributable, at least in part, to the growing recognition that complex health issues, such as chronic disease prevention, obesity prevention, tobacco control, or adolescent delinquency are generally unresponsive to top-down or single-solution programs[96], requiring instead solutions from groups of partners that address the multitude of environmental factors that influence individual behavior[97]. In 2003 for example, the Institute of Medicine released a report, *The Future of the Public's Health in the 21st Century*, which specifically cites the importance of private-public collaborative partnerships as a key public health strategy

[98], and the CDC continues to emphasize the importance of collaborative efforts in solving the most significant public health challenges[99].

Measuring Coalition Functioning: Findings from Systematic Reviews

Subsequent to recognizing the importance of coalitions in public health and the funding to support their development, came calls to evaluate their effectiveness[91]. Overall however measurement of coalition functioning has fallen short, failing to provide clear answers to the question of what factors determine coalition success[9, 100]. Funders have assumed that collaborative efforts would be more effective than efforts carried out by a single organization, yet there is little evidence that collaboration has yielded positive outcomes such as improvements in community health systems or individual health status[11, 83]. There are now thousands of health promoting coalitions in the U.S. and only 15% of them are well documented[95] with details about their structure and functioning. Hence the existing literature on health-based coalitions has been characterized as having “a dearth of empirical information[9, 20]”, and “limited evidence of the effectiveness of partnerships in achieving desired outcomes[20].”

The lack of sufficient evidence on coalition effectiveness stems primarily from an over abundance of and lack of consensus on measurement instruments, most of which have not adequately demonstrated validity and reliability[9]. The over abundance of measures likely stems from the highly complex nature of coalitions and the many theoretical frameworks that have attempted to describe that complexity in a coherent fashion[101-103]. To date, no single dominant theoretical framework or set of measurement instruments has been widely adopted for understanding and evaluating the many aspects of coalition functioning that have been proposed[9, 11, 95, 100, 104]. Three

recent reviews of coalition functioning and the instruments used to assess the many aspects thereof, highlight the challenges associated with measuring coalition functioning and ultimately coalition success, but provide glimpses of how to move the field forward.

Using Wallerstein et al.'s logic model (Figure XXX) of community-based participatory research (CBPR)[105], Sandoval et al. reviewed 46 unique instruments which included 224 individual measures of community-based health coalition characteristics. As they are presented in the Wallerstein model, Sandoval et al. divided coalition functioning into three categories; context, group dynamics, and outcomes. Within the category of context, 28 measures were identified, the majority of which related to community capacity, organizational capacity, health issues, and historical context of collaboration, and the minority of which addressed national/local policies and political governance. The review did not capture measures for the cultural, geographic, socio-economic, or environmental contexts. The category of group dynamics had a total of 162 measures across three sub-categories; structural dynamics, individual dynamics, and relational dynamics. Within relational dynamics, measures were identified for eight of the nine characteristics listed in the Wallerstein model, including participatory decision making and negotiation, dialogue and mutual learning, leadership and stewardship, task communication and action, self and collective reflection, and influence and power. For the structural dynamics sub-category, complexity was the most commonly cited characteristic, followed by agreements, diversity, and length of time in partnership. The Wallerstein model includes seven characteristics for the individual dynamics sub-category, including: core values; motivation for participating; personal relationships; cultural identities/humility; bridge people on research team; individual beliefs,

spirituality, and meaning; and community reputation of the principal investigator. However the literature only included associated measures for three of the seven: congruence with core values; individual beliefs; and reputation of the principal investigator. This finding is interesting given that characteristics at the individual level have been recognized as potentially highly important in determining coalition success[12, 13, 96, 97]. In the final category, outcomes, Sandoval et al. identified measures for four of the seven possible outcomes listed in the Wallerstein model; empowerment and community capacity; change in practice or policy; unintended consequences; and health outcomes.

Perhaps the most important conclusion of the Sandoval et al. study was not the number of unique instruments and measurements identified, but rather the lack of scientific rigor applied in developing and/or applying those instruments and measures. Overall, only about 25% of the measures evaluated had information regarding either reliability or validity, and the majority of measures that had this information only provided minimal information about reliability. The first key recommendation coming out of the Sanodaval et al. study was that future assessment tools of CBPR need to address issues of validity, including face validity, content validity, and/or construct validity[104]. The second was that in order to accurately assess these validity concerns, future research needs to include adequate sample sizes, given that the majority of previous research has been conducted on single coalitions, using the coalition itself as the unit of measure and unit of analysis[104]. Thus future studies could address issues of validity through increasing sample sizes to include teams in clinical practice settings,

agencies, not-for-profit organizations and inter-organizational coalitions or other alliances[104].

In their 2006 review of published articles from 1980-2004, Zakocs & Edwards identified 26 studies that empirically investigated the relationships between coalition-building factors and indicators of coalition effectiveness, separating coalition effectiveness into two sub-categories; coalition functioning, and community-wide changes[95]. In contrast to Sandoval et al.'s review which specified a particular theoretical framework, Zakocs & Edwards did not specify any frameworks and therefore rationalized their sub-division of coalition effectiveness (i.e. coalition functioning and community-wide changes) in the following manner:

Because study variables were not explicitly labeled as coalition-building factors or indicators of coalition effectiveness, each study's research question, conceptual model, study design, and/or data analysis plan were reviewed to determine which variables were tested as coalition-building factors (i.e., independent variables, the factors viewed as influencing outcomes) and which were tested as indicators of coalition effectiveness (i.e., dependent variables, the factors expected to change as a result of the coalition-building factor)[95].

Following this initial sub-division, indicators of coalition effectiveness were further arranged into qualitatively similar categories. For example, the category for "member participation" was created by combining measures that included number of meetings attended, roles that coalition members played in the coalition, and the number of hours members spent working on coalition activities.

From the 26 reviewed studies, 26 conceptually discrete indicators of internal and external coalition effectiveness were identified, with 73% being indicators of coalition functioning and 27% being indicators of community-level change. The most frequently investigated indicators of coalition functioning were: quality of strategic plans; member participation; total number of actions implemented; member or staff satisfaction; and agency collaboration. Additionally, 55 conceptually distinct coalition-building factors were identified as being positively associated with indicators of coalition effectiveness, the six most commonly cited of which included: formalization of rules and procedures; leadership style; active member participation; membership diversity; member collaboration; and group cohesion.

Zakocs & Edwards noted five themes on the relationship between coalition-building factors and their relationship to indicators of coalition effectiveness from their analysis. (1) There was considerable variation in how coalition-building factors and indicators of coalition functioning were defined. The example noted was that while “member participation” was defined in some studies as a coalition-building factor, other studies identified it as an indicator of coalition functioning. (2) Coalition-building factors were operationally defined differently across studies. So while eight studies identified relationships between “leadership style” and coalition effectiveness, leadership style was defined and thus measured five different ways (e.g. incentive management, task focused, shared leadership, empowering/collective, and multiple characteristics). (3) Studies measuring the same coalition-building factor, rarely measured the same indicator of coalition effectiveness. For example, although eight studies found a relationship between leadership style and coalition effectiveness, that relationship was made with nine

different indicators of effectiveness (e.g. member satisfaction, member participation, or number of actions completed). (4) Similar to the previous theme, studies measuring the same indicator of effectiveness rarely measured the same coalition building factor. (5) Conflicting results emerged for studies that actually did examine the relationship between the same outcome and coalition-building factor. Despite the fact that the same factors and indicators were rarely assessed across studies, and that in instances where the same indicators and factors were used they often provided conflicting results, Zakocs & Edwards were able to draw some conclusions about which coalition-building factors may enhance coalition effectiveness. This study concluded that coalitions with the following factors or indicators: formal procedures for governance; encourage strong leadership; foster active participation of members; cultivate diverse memberships; promote collaborations among member agencies; and facilitate group cohesion, seemed to be more effective.

Granner & Sharpe's 2004[9] evaluation of tools for measuring characteristics of coalition functioning provided an analysis of the literature that presented findings which in many ways were congruent with those of Zakocs and Edward's. The major difference however between the two studies was that Granner & Sharpe's analysis was guided by theoretical frameworks, specifically the Community Coalition Action Theory (CCAT) (Appendix A) developed by Butterfoss & Kegler[16], and a later refinement of the CCAT developed by Florin et al[106]. Both theories conceptualize coalition functioning in terms of stages of development, which may be useful when attempting to evaluate coalition functioning[9]. The CCAT conceptualizes coalition development along three stages; formation, maintenance, and institutionalization, while Florin et al. delineate six stages of

coalition development including: initial mobilization, establishing organizational structure, building capacity for action, planning for action, implementation, refinement and institutionalization[106].

The 146 measurement scales/indexes identified through literature search were grouped into five categories informed by the aforementioned theoretical frameworks as follows: (1) Member Characteristics and Perceptions, (2) Organizational or Group Characteristics, (3) Organizational or Group Processes and Climate, (4) General Coalition Function or Scales Bridging Multiple Constructs, and (5) Impacts and Outcomes[9].

Within each of these five broad categories, sub-categories were developed to capture sets of similar constructs, much like the process employed by Zakocs & Edwards.

A total of 59 measures were identified for Member Characteristics and Perceptions, with the greatest number of measures for the sub-categories of: member participation (15 measures), member satisfaction (seven measures), and member benefits to participation (seven measures). Of those however, only 56% reported at least one type of validity or reliability. 27 measures of Organizational or Group Characteristics were identified, with most measures being related to leadership (nine measures) and staff performance (eight measures), with 59% reporting some type of validity or reliability. For Organizational or Group Processes and Climate, 32 measures were identified, with most assessing action plan quality (seven measures), and group relationships, communication, and resources (four measures each), with 44% reporting some type of validity or reliability. Ten general measures of coalition functioning were found with only three reporting some validity or reliability. Lastly, 20 measures of Impacts and Outcomes were identified, with most assessing community linkages (eight measures) or

capacity/empowerment (six measures). 50% of these measures reported some type of validity or reliability.

Overall, Granner & Sharpe concluded there were varying conceptual definitions of similarly named variables suggesting that many of the constructs identified lack clarity, making it difficult to draw definitive conclusions about the factors that may best explain coalition success. Granner and Sharpe recommended several strategies for future study of coalitions including: identifying an overarching framework, specifically suggesting the CCAT; linking measurement tools with the constructs in the chosen framework(s); and identifying measurement tools with adequate validity and reliability and/or creating and validating new tools if time and resources allow; integrating qualitative and quantitative data in order to provide a more comprehensive assessment and understanding of coalition development, function, and impact.

Measuring Coalition Functioning: Future Directions

Results from previously conducted systematic reviews of coalition measurement in conjunction with other literature on coalition functioning provide evidence to support the following recommended directions for future research on measurement of coalitions:

- (1) Emphasis must be placed on developing measures that demonstrate adequate validity and reliability. In order to achieve this:
 - a. Mixed-methods approaches should be utilized to better explicate and organize constructs proposed in theoretical frameworks of coalition functioning.
 - b. Larger sample sizes are necessary.

1. If the unit of measurement and/or analysis is the coalition, then it will be important to study multiple coalitions.
2. Using members of a coalition as the unit of measurement, as opposed to the coalition itself, may provide an opportunity for reaching sufficient sample sizes.

(2) Coalition measurement can be broadly divided into three general categories with corresponding sub-categories:

a. Internal Coalition Environment

i. Coalition-level factors

1. Leadership and staffing
2. Resources
3. Diversity of partners
4. Conflict resolution
5. Interpersonal relationships
6. Power differentials
7. Length of time in partnership
8. Congruence of core values/common goals
9. Individual beliefs
10. Task Focus
11. Synergy
12. Skills and expertise

ii. Member involvement

1. Member satisfaction

2. Member alignment
3. Member expectations for participation
4. Member Costs/Benefits of participation
5. Member motivation
6. Member commitment

b. External Coalition Environment

- i. Community characteristics
- ii. National/local policies and political governance
- iii. Community capacity
- iv. Community support

c. Coalition Outcomes

- i. Coalition sustainability
- ii. Empowerment and community capacity
- iii. Change in policy or practice
- iv. Institutionalization of programs and/or coalitions
- v. Health outcomes

(3) All three general categories of coalition measurement need further investigation, however the internal coalition environment, and member involvement specifically, may provide particularly important insight into factors that influence coalition success[11, 100, 107, 108], especially since member involvement has been though to contribute directly to coalition success

Advancing the Field of Coalition Measurement by Assessing Member Involvement in Physical Activity Coalitions

An extensive body of literature on the functioning and success of public health-focused coalitions exists, yet significantly more research is required before definite conclusions can be drawn about the factors most likely to drive coalition success[9, 95, 104]. Additionally, given that physical activity as a public health concern is relatively new compared to public health issues such as tobacco control, adequate access to healthy food, and at risk behavior of youth, the study of physical activity coalitions is noticeably absent from the existing coalition literature[109]. Given however that theoretical models of and efforts to evaluate coalition functioning have been applied across coalitions focused on a wide range of public health issues[95], the functioning of physical activity coalitions is likely similar to other coalitions, and thus measurement of physical activity coalitions can likely be informed by the existing literature.

The existing literature on coalition functioning, albeit limited in its ability to draw definitive conclusions about factors influencing coalition success, has pointed to the potential importance of the “internal coalition environment” (e.g. leadership[11, 16, 100], task focus[100] structure[16], resources[11], membership[11], partner characteristics[11]) in determining coalition success. Although represented and described somewhat differently, three theoretical models, Butterfoss and Kegler’s Community Coalition Action Theory (CCAT), Lasker et al.’s model for Partnership Synergy, and Brown et al.’s theoretical model of coalition functioning, all highlight the importance of the internal coalition environment. Within the internal coalition environment, member involvement has been mentioned repeatedly as a potentially important determinant of coalition

functioning that leads to coalition success[11]. For example, Brown et al. found that benefits of being a coalition member correlated strongly with overall coalition functioning (0.71) and were inversely associated with coalition attrition (-.38)[110]. Although member involvement appears in each of the three models that guide this study, they have yet to be well understood, defined and measured. The literature has identified numerous possible constructs that are thought to be related to member involvement (e.g. member commitment, member satisfaction, alignment, member expectations, member benefits of participation, member costs of participation), however a more in-depth understanding of what these constructs truly mean, and how they may or may not relate to one another other, and ultimately how they may or may not relate to member involvement is needed. Once the member involvement phenomenon has been better explicated and measured, then analysis of how member involvement may explain or predict coalition success or failure can be carried out.

Additionally, research on evaluation of strategic partnerships in the for-profit sector from the field of business administration has also highlighted the importance of considering factors at the partner level in determining success or failure of those partnerships[111-113]. Similarly to public health's attempts to evaluate what makes coalitions successful, the field of business administration has struggled to identify the most salient factors that predict collaborative success[113]. As a result recommendations have been made for utilization of qualitative methods over existing quantitative ones, in order to more fully understand the intricacies of the factors involved in for-profit partnerships[112].

Therefore, the following theoretical model has been developed to guide the proposed study and is informed directly by the CCAT[16], the model for Partnership Synergy[96], the theoretical model of coalition functioning[110] from the field of public health and by the integrative framework of strategic alliances[113], and indirectly by previously conducted systematic reviews of measurement of coalition functioning[9, 95, 104].

Study 1 Methods

Purpose

The purpose of this study is to identify the factors related to member involvement for participation in a national coalition focused on developing and advancing physical activity policies and programs, the National Physical Activity Plan (NPAP). Because member involvement has been identified as potentially highly relevant to coalition success, yet poorly understood, this study will employ a cross-sectional, case-study approach that will provide a comprehensive understanding of the factors related to member involvement in the NPAP. In-depth understanding of the member involvement phenomenon will inform development of quantitative instruments, on which validity and reliability testing can be performed across a large sample of members of physical activity coalitions around the United States.

Aim 1: To identify the Factors That Influenced Member Organizations' Involvement in Development of the U.S. National Physical Activity Plan

Objective 1a: Identify (1) why member organizations chose to become involved in the NPAP; (2) the process by which organizations made the decision to become a NPAP member; (3) what each organization's

expectations were for being involved in developing the NPAP; (4) why each organization has chosen to stay involved with the NPAP, (5) what effect being a NPAP member has had on each organization.

Study Design

This is a cross-sectional study consisting of in-depth, semi-structured interviews with key informants involved in developing and launching the NPAP.

Methods

Participants

The NPAP coalition is essentially a committee, the “Coordinating Committee,” which has been responsible for overseeing the development and launch of the NPAP since its inception in 2007. This Coordinating Committee is comprised of individuals representing “Organizational Partners,” which are organizations (e.g. American College of Sports Medicine, American Cancer Society) that provided monetary and in-kind support for the NPAP, and in exchange for that support were able to appoint a representative from their organization to serve on the Coordinating Committee. Additionally, there are Coordinating Committee members who do not represent an Organizational Partner, but who were asked to serve on the Committee because of their noted expertise in the field of physical activity and public health. Purposive sampling will be used to recruit only the members of the NPAP’s Coordinating Committee who represent an Organizational Partner given that the purpose of this study is to understand the factors related to partner involvement in a coalition, as opposed to individual involvement in a coalition. In addition to the purposive sampling of Coordinating Committee members representing Organizational Partners, snowball sampling will be

employed by asking each participant whether there might be additional representatives from within their organization who might offer a unique perspective to their organization's involvement in the NPAP and thus recruited for participation in the study.

Measures: Interviews with Key Informants

Qualitative semi-structured interviews will be used to elucidate the key factors explaining why and how Organizational Partners of the NPAP decided to become and stay involved in the NPAP coalition. *Truth and Reality-Oriented Correspondence Theory* will guide this study as it is used to illuminate “what’s going on in the real world[22].” Specifically, the process known as *analytic induction*[22] will be employed. In analytic induction, a priori assumptions about “what’s going on” are generated based upon previous research and/or experience, and then a case study is subsequently conducted to determine whether or not the facts generated from that case study support the a priori assumptions. In this instance, the a priori assumptions will address Organizational Partners’ rationale for joining the NPAP coalition. These assumptions were informed by literature from the fields of community-level public health coalitions and business administration[11-14, 108], as well as through the principal investigator’s experience as the Project Coordinator for the NPAP.

Each member of the NPAP’s Coordinating Committee who represents an Organizational Partner will be contacted according to the following information provided to data collectors via the *Interview Guide Protocol* (Appendix E).

Contact each key informant no more than 3 times without response, according to the following protocol. If at any point you receive a response, then schedule a

time to conduct the interview, and send a confirmation email prior to the scheduled interview.

Contact 1: Either call or send each potential key informant an email following either the recruitment telephone or email script, respectively.

Contact 2: If no response after contact 1, then follow up with either an email or phone call (leave voicemail) after one week.

Contact 3: If no response after contact 2, then follow up with either an email or phone call (leave voicemail) after one week.

Semi-structured interviews will be conducted by telephone using a predetermined series of “main questions” designed to illuminate the potential factors for member involvement highlighted in Figure 1. Each main question has a follow up question and/or a probe in order to have participants offer more in-depth descriptions and/or clarification to their responses to the main questions (Appendix XXX).

Given that the principal investigator of this study has been closely associated with the NPAP as its Project Coordinator, precautions will be taken to minimize the risk of his potential to bias results from this study. The principal investigator (PI) has gathered a research team that will: provide oversight to the study design; will take a lead role in data collection; and will provide assistance with data analysis and interpretation of results. The team is comprised of six individuals, all of whom are members of the Physical Activity Policy Research Network (PAPRN)[114], a CDC funded network of leading researchers in the field of physical activity policy, based out of the Prevention Research Center at Washington University at St. Louis.

Given the PI's close working relationship with virtually all participants in the study, were he to be the individual conducting interviews, the potential would exist for participants to offer biased responses. For example, it is possible that participants would over inflate positive experiences and/or under inflate or never mention negative experiences with the NPAP in an effort to not offend the PI who has served the Project Coordinator for the NPAP since January, 2010. Therefore, a member of the research team other than the PI will be the "face of the study," establishing contact and conducting interviews with all study participants, in order to reduce the likelihood of response bias.

Confidentiality and Ethics

All interviews will be conducted by telephone and recorded with each participant offering informed consent prior to commencement of the interview. Approval from the Internal Review Boards of both the University of South Carolina and Washington University at St. Louis will be sought for this study. Participant ID numbers will be assigned to each individual and the organization she/he represents in order to hide the identity of both. Only the PI and the data collector(s) will have access to the linked names and participant IDs. All electronic files of recorded interviews will be stored in a password protected computer, under password protected files, house within a locked office. Each recorded interview will be sent electronically to a professional transcriber who will maintain the coding of participant IDs when naming the transcribed files. All transcribed interviews will be stored in the same secure manner as the recorded interviews.

Sample Size

Given that this is a case study, the sample size is limited to the number of individuals represented in the case. The study sample will include Coordinating Committee members of the NPAP representing Organizational Partners that joined the NPAP coalition prior to its launch in May, 2010. Two Coordinating Committee members representing Organizational Partners that joined the coalition after the NPAP's launch will be excluded, as will five academic members of the Coordinating Committee who did not represent an Organizational Partner. Hence, 18 individuals, each representing a different Organizational Partner, will be invited to participate. Additionally, prior to the conclusion of each interview, each participant will be asked whether or not additional individuals from within their organization might be able to offer unique insight into the questions asked during the interview. If participants recommend others from within their organization be interviewed, attempts will be made to recruit those individuals into the study.

Analysis

QSR NVivo9 qualitative data analysis software will be used to manage data and assist with data analysis, with the objective being to identify themes about member involvement in the NPAP that emerge from completed interviews. The computer software will be used as a tool and will not replace the skill and analysis of the investigator[22]. Once transcribed, the interviews will be coded using an initial codebook to be developed a priori by members of the research team. Coding will be conducted by only two members of the research team for consistency. Organizational codes, based on the interview guide questions, will serve as initial codes for development of a master

code list, with additional codes added throughout the process. The coders will use this list to analyze an initial transcript and independently assign codes to sections of the interview text, modifying and adding codes as needed. The coders will subsequently discuss the code list, arriving at consensus on any differences on codes or code definitions. This same process will be employed for an additional two interview transcripts, further refining and building the master code list. The remaining interview transcripts will follow a similar, iterative process where codes will be added to reflect emerging themes and any differences in coding will be addressed with the two coders arriving at consensus.

Study 2 Methods

Purpose

The purpose of this study is to develop and subsequently assess the psychometric properties of a survey instrument to assess member involvement in physical activity coalitions. Using the themes that emerge from the qualitative case study of the NPAP from Study 1, a survey instrument will undergo three phases of development. The first phase will be to convene a small group of survey development experts to guide generation of a list of candidate survey items and response options. The second phase will be to convene a second, larger group of known experts in physical activity policy and physical activity coalitions to assess the content validity of each item and the survey as a whole. The third will be to administer the survey instrument to members of physical activity coalitions from across the United States in order to assess the instrument's psychometric properties. The product of this study will be a survey instrument that has undergone testing of its psychometric properties in order to understand the instrument's

underlying factor structure, level of internal consistency reliability, and level of construct validity.

Aim 2: To Develop and Test the Validity and Reliability of an Instrument to Assess

Partner Involvement in Physical Activity Coalitions

Development

Objective 2a: Convene a group of experts in survey/scale development to generate a pool of candidate items for each factor identified as possibly being related to partner involvement in a physical activity coalition based upon results from Study 1.

Objective 2b: Convene a group of physical activity and public health experts, with particular expertise in physical activity policy and physical activity coalitions, to assess the content validity of each candidate item and the survey as a whole.

Objective 2c: Produce a content valid survey to assess partner involvement in physical activity coalitions.

Goal 2a: A content-valid survey will be produced and will contain a minimum of five candidate items per factor that can be subjected to further reliability and validity testing.

Validity and Reliability Testing

Objective 2d: Sample from a large group of individuals ($n = 800$) who are likely to be members of a physical activity coalition at the state or local level, throughout the United States to complete the partner involvement survey.

Objective 2e: Have 50% of individuals (n = 400) complete the survey in order to conduct an exploratory factor analysis (EFA) to determine the number of constructs underlying the partner involvement survey.

Objective 2f: Conduct an exploratory factor analysis in order to: achieve simple structure for the survey; test the internal consistency reliability of the survey; and test the convergent and divergent validity the survey.

Hypothesis 2a: Simple structure amongst the survey items will be achieved, successfully identifying the number and relationship of constructs underlying the scale.

Hypothesis 2b: The survey will demonstrate sufficient inter-item consistency reliability ($\alpha > 0.70$) and scale items will demonstrate appropriate convergent and divergent validity.

Study Design

This is a cross sectional design, where emergent themes that resulted from a qualitative analysis of partner involvement in the NPAP will be used to inform development and testing of a quantitative scale to assess member involvement across a diverse sample of physical activity coalitions.

Methods

Participants

Objective 2a: In order to generate an initial pool of items that represent the constructs for partner involvement in a physical activity coalition, several individuals (3-5) with expertise in scale development will be convened in Columbia, SC. Results from study 1 will provide a list of potential constructs that are thought to relate to the “partner

involvement” phenomenon. Additionally, the results from Study 1 will provide definitions for each construct that will guide the team of experts in generating a pool of items for each proposed construct. The result of this effort will be an initial draft of the partner involvement survey. Members of the faculty and staff as well as senior doctoral students within the departments of Exercise Science; Health Promotion, Education, and Behavior; Education; and Psychology at the University of South Carolina will be recruited to participate in this phase of the study. An initial list of possible participants has already been drafted and individuals on that list will be contacted via e-mail and/or telephone to determine whether or not they would be willing to participate.

Objective 2b: A second group, distinct from the first, will be convened as an expert panel to provide content validity testing of the partner involvement survey. Having experts review a pool of candidate items for a scale can help confirm or invalidate the definition of the phenomenon being measured[115], which in this case is partner involvement in a physical activity coalition. Therefore, this panel will consist of 5-10 experts from the field of public health coalitions and physical activity policy. Specifically, individuals who contributed to Study 1 plus additional individuals from the Physical Activity Policy Research Network (PAPRN) who were involved in a special project of the PAPRN called Collaboratives and Networks for Active Living (CANAL), will be recruited to serve as the expert panel for reviewing candidate items for the partner involvement survey. An initial list of twenty five individuals has been developed and individuals on that list will be contacted via e-mail and/or telephone to determine whether or not they would be willing to serve on the expert panel.

Objective 2d: Participants will be individuals representing organizations that are members of physical activity-based coalitions nationwide. Similar to the NPAP, the organizations represented on the coalitions will be diverse, some being government agencies, others being not-for-profit or for-profit entities. Individuals not representing a specific organization and are thus acting in the coalition on their own behalf, will be excluded from the analysis. The Executive Director of the National Physical Activity Society (NPAS) has agreed to contact his members and request that they complete the survey. The NPAS is a professional organization comprised of roughly 1,300 members with research and practical expertise in the areas of health promotion and education, public health, exercise science and exercise physiology, physical education, and community and transportation planning. This organization will be targeted because it likely is that its members will be involved with PA coalitions. Each NPAS member will receive three separate e-mails from their Executive Director requesting their participation in the study along with a link to the web-based survey. As an incentive, participants will be offered the opportunity to be entered into a drawing to receive one of five \$100 gift cards to Amazon.com. The recruitment goal is to include at least five respondents for each unique item in the survey instrument.

Sample Size

The exploratory factor analysis proposed in this phase of the study will require a minimum of five participants per unique item per construct of member involvement. Furthermore, a scale must have a minimum of three items per construct [115]. Although it is not possible to know the number of constructs that will result from the Study 1 and Study 2, it is possible that 5-7 unique constructs will emerge from those studies. Hence, if

the survey contains 7 proposed constructs, each with 5 items per construct, a minimum sample size would be 175 participants or greater.

Measures

The initial version of the member involvement survey that will be generated as the result of successfully completing Object 2a, will serve as the instrument to be subjected to the content validity testing described in Objective 2b. While the number of candidate items for the member involvement survey is currently unknown, it will be based upon the number of themes for member involvement that emerge from the qualitative analysis of Organizational Partners of the National Physical Activity Plan in Study 1. Each theme that emerges from Study 1 will be considered a possible construct related to the member involvement phenomenon to be captured by the survey, and each construct each will have its own definition.

Procedures

Generating Candidate Items for the Member Involvement Survey

It seems obvious that one should be clear about what one wants to measure before developing a scale to measure it, however researchers often think they have a clear understanding of what they wish to measure when in reality their understanding is too vague[115]. The purpose of the qualitative analysis to be conducted in Study 1 is to provide clarity on the partner involvement phenomenon and the potential constructs related to partner involvement. Hence working definitions for “partner involvement” and for each of the constructs believed to be related to partner involvement generated from Study 1 will be offered to the team of scale development experts from the University of South Carolina that will be convened to generate the initial pool of candidate items for

the partner involvement survey. Based upon those definitions, the team will develop a redundant pool of items to assess the constructs related to partner involvement. Redundancy is considered an asset rather than a liability at this stage of survey development, particularly since determination of internal consistency reliability is a function of how strongly items correlate with one another and the number of items within a scale[115]. Each item stem will be written taking into account accepted principles of good and bad items (e.g. avoiding items that are too long, having items with a low level of reading difficulty, and avoiding items that convey two or more ideas)[115]. The partner involvement survey will be measuring individuals' opinions, attitudes, or beliefs about their organization's involvement in a physical activity coalition. Likert scaling will be thus be used as the response format for each item, since this response format has been widely accepted when measuring individuals' attitudes, beliefs and opinions[115]. A determination as to the number of response options along the Likert scale (e.g. 4, 5, or 6 response options ranging from "strongly disagree" to "strongly agree") will be made by the expert group. It is anticipated that once the team of experts for developing the pool of candidate items has been convened, completion of the pool of items can be achieved within one half day.

Conducting Content Validity Testing of Survey

The panel of 5-10 individuals with expertise in physical activity coalitions and physical activity policy will be convened via teleconference or virtual meeting in order to maximize the content validity of the partner involvement survey. Members of the panel will be asked to provide input on the relevance of each item based on the definitions for each construct that will be provided to them. Specifically, the panel will provide feedback

in three areas: (1) how relevant they think that each item is to what it is intended to measure; (2) how clearly and concisely written each item is; (3) identifying ways of tapping the phenomenon of interest, partner involvement, that may not be represented in the current scale.

Assessing the Psychometric Properties of the Survey

Exploratory factor analysis (EFA) is appropriate when one has obtained measures on a number of variables, and wants to identify the number and nature of the underlying factors that are responsible for covariation in the data[115]. Specifically, this study will employ the Common Factors Methods of factor analysis as opposed to the Principle Components Method. The rationale for this decision lies in the fact that the basic assumption made when using the Common Factors Methods is that the scale being assessed will have underlying latent variables, which is the assumption being made here. Conversely, Principal Components assumes no underlying latent variable and that no error exists which is not the assumption for this study.

EFA is a process through which a series of subjective and objective tests lead to decisions about how well the scale items “map” or load onto the number of factors, or constructs, that underlie a scale. Results from the tests will be interpreted using four guiding principles:

1. There need to be at least three questions/items for any given construct/factor
2. Items need to share a conceptual meaning
3. Variables mapping or loading on different factors measure different constructs
4. Simple structure must be obtained.

The beginning premise of EFA is that all items contained within a scale belong to one category or construct. Statistical packages provide an assessment of the extent to which the association amongst the scale items can be explained by a single construct. If the assessment reveals that one construct can not sufficiently account for the covariation amongst the items, then a second construct is identified, and the process is repeated. Again, if the amount of covariation amongst the items is not sufficiently accounted for by the two constructs, a third construct is identified. This process continues until the covariation that the set of factors has not accounted for is sufficiently small. Oblique factor rotation is a process employed to identify clusters of variables based on the extent to which they are correlated, where orthogonal rotation assumes no correlation amongst factors. Given that we assume there will be underlying relationships amongst the factors proposed, oblique rotation will be utilized.

Analysis

Conducting Content Validity Testing of Survey

Each member of the expert panel will categorize their affinity for each item (y/n) based upon feedback areas (1) how relevant they think that each item is to what it is intended to measure and (2) how clearly and concisely written each item is. Items for which 80% of reviewers indicate an affirmative response will be retained; all others will be considered for deletion. Suggestions from expert panel members regarding ways of tapping partner involvement that may not be represented in the current scale will be considered and candidate items related to those suggestions will be subsequently developed and will undergo a second round of content validity testing using identical methods as the first round. All items retained after the first round, or if necessary, the

second round of content validity testing with the expert panel, will make up the final candidate items for the partner involvement survey that will undergo further validity and reliability testing in Study 3.

Assessing the Psychometric Properties of the Survey

The first of two subjective tests used to determine the number of meaningful values to retain will be to observe Eigenvalues for each item. When looking at Eigenvalues, each item is considered its own factor, and any item with an Eigenvalue above one is likely to be retained. As part of the Eigenvalue output from the statistical package employed, one can also consider the proportion of variance attributed to each individual item as a means for possibly corroborating the Eigenvalue for that item/factor.

The second of the subjective analyses that will be employed to determine the number of factors is the Scree Test. A Scree Plot is a graphical representation of the Eigenvalues that assists in determining the number of factors that should be maintained. The Y-axis denotes the Eigenvalue and the X-axis denotes the item/factor number. If there is a distinct “elbow” in the line connecting the points on the graph, then the number of data points above the elbow may represent the number of factors that should be retained. If the number of factors with Eigenvalues above one equals the number of Eigenvalues above the Scree Plot elbow, then this serves as potential confirmation for the number of factors to retain.

Once the Eigenvalues and Scree Plot have been analyzed, more objective analyses will be conducted. “Simple structure” and “interpretability” respectively represent quantitative and qualitative means for determining the appropriate number of factors to

retain. In each case, an assessment is made as to how well the individual items “fit” within the factor analyses conducted.

Simple structure will have been achieved when the items “load” highly onto one factor and have low loading on all other factors. Achieving simple structure will begin with an analysis of how well items are loading onto the factors. Items with a value greater than 0.40 (or less than -0.40) will be considered as loading strongly/highly onto the given factor(s). Thus items not loading onto any one factor strongly will be considered as candidates for deletion. Further, factors with fewer than three items loading onto it will be considered candidates for deletion. In addition to loading, the extent to which items are “cross-loading” will also be assessed. If items have a value greater than 0.20 for two or more factors, they will be considered to be strongly correlated with multiple factors and subsequently considered for deletion.

Before a final decision about whether or not items or factors should be deleted, the interpretability of the solution will be considered. For example, if there was an item that did not load heavily onto any one factor, the meaning of that item will be considered. If conceptually the item did not seem to fit with other items, it would be more than likely that it represented another latent variable. If however, the item did not load onto any of the factors, but conceptually or theoretically should be related to other items loading onto that construct, the lack of loading may have been the result of the way in which the question and/or its response options were worded.

Once simple structure has been achieved, the inter-item consistency reliability of the scale will be assessed (Cronbach’s alpha). An alpha score below 0.60 will be considered unacceptable, while alpha scores from 0.60 – 0.90 will be considered as being

increasingly acceptable. At alpha greater than 0.90 items will be considered for deletion in order to simplify the scale and minimize burden on participants and researchers. In cases where deleting an item or items based on alpha greater than 0.90 for the construct is considered, the item that would most minimally affect alpha after its deletion, will be the item chosen for deletion.

Validity for each sub-scale of the partner involvement survey, one for each of the constructs presented, will be assessed based upon: the results of the correlations amongst the items; the theoretical relationships that should exist amongst the constructs themselves; and two variables that will be included specifically to check convergent and divergent validity. The two validity variables will be: “Satisfaction with the coalition” and “Coalition Outcome efficacy,” both of which have previously demonstrated significant correlations with some of the constructs related to partner involvement being proposed in this study[107]. For example, based upon the work of Rogers et al., if “costs of partner involvement” is a construct that holds up to the EFA, then theoretically there should be a negative association between it and satisfaction with the coalition and outcome efficacy of the coalition, demonstrating divergent validity. Additionally, if “partner alignment” which theoretically should be related to member “sense of ownership,” also holds up through EFA, then it should be theoretically positively associated with satisfaction with the coalition and outcome efficacy of the coalition demonstrating convergent validity.

The anticipated result of having completing of the proposed analyses including: eigenvalues; scree plots; factor loading; internal consistency reliability; and convergent/divergent validity; will be a survey instrument to assess partner involvement

in physical activity coalitions that demonstrates sufficient reliability and validity to be immediately deployed into the field.

Study 3 Methods

Purpose

Given that member involvement has been thought to play an important role in coalition functioning and coalition success, the purpose of this study was twofold. First, it is to understand organizational members' motives for joining a PA coalition and determine how successful they perceived the coalition to be. Second, to understand the characteristics of organizational members and the coalitions to they have committed membership. This purpose was achieved through surveying organizational representatives.

Aim 3: To produce a detailed description of national, state, and local physical activity coalitions from the perspective of their members in order to inform future research and practice aimed at enhancing the success of national, state, and local physical activity coalitions.

Objective 3a: Describe physical activity coalitions from organizational members' perspectives.

Objective 3b: Summarize organizational members' motives for committing to a physical activity coalition.

Study Design

A cross-sectional design will be employed to measure organizational members of physical activity-based coalitions throughout the U.S.

Methods

Participants

Participants will be individuals representing organizations that are members of physical activity-based coalitions nationwide. Similar to the NPAP, the organizations represented on the coalitions will be diverse, some being government agencies, others being not-for-profit or for-profit entities. Individuals not representing a specific organization and are thus acting in the coalition on their own behalf, will be excluded from the analysis. The Executive Director of the National Physical Activity Society (NPAS) has agreed to contact his members and request that they complete the survey. The NPAS is a professional organization comprised of roughly 1,300 members with research and practical expertise in the areas of health promotion and education, public health, exercise science and exercise physiology, physical education, and community and transportation planning.

Sample Size

It is anticipated that roughly 30% of the NPAS membership will be successfully recruited into the study. It is also anticipated that roughly 50% of NPAS' 1,300 members are also members of a physical activity coalition. Therefore it is anticipated that roughly 195 individuals who meet the inclusion criteria will be successfully recruited into the study.

Measures

A previously-developed survey instrument for measuring member involvement in physical activity coalitions will be used for this study. That survey includes a series of items which measure descriptive characteristics of physical activity coalitions and

descriptive characteristics of the organizational members of those coalitions.

Additionally, the survey includes a series of items which are intended to measure constructs related to organizational members' motives for committing to a physical activity coalition. Lastly, the survey includes a series of items intended to measure organizational members' perceptions about the coalition's level of success. The survey will be developed and administered with software from Qualtrics.

Analysis

Objective 3a: Because the purpose of this objective is to describe physical activity coalitions from the perspective of organizational members, simple descriptive statistics will be employed. Frequencies and percentages will be used to summarize the following descriptive characteristics of physical activity coalitions: Area in which the coalition is working (e.g. urban, suburban, rural); Size of the coalition (e.g. number of members); Settings in which the coalition is working (e.g. built environment, schools, health care); and Types of initiatives being pursued (e.g. advocacy, strategic planning, policy).

Frequencies and percentages will also be employed to describe the following descriptive characteristics of organizational members: Type of organization (e.g. for-profit, non-profit, government agency); Sector in which organization primarily functions (e.g. education, transportation); and Size of the organization (e.g. number of employees). All descriptive characteristics for physical activity coalitions and their organizational members will be stratified by whether the coalition operates at the national-level, state-level, or local level.

Objective 3b: The survey instrument to be employed in this study will include a series of items intended to measure organizational member's motives for joining a

physical activity coalition and organizational members' perceptions about the coalition's level of success. The items will represent one of five proposed constructs for organizational member involvement including: strategic alignment, organizational alignment, providing input, seminal event, and cost/benefit ratio. Each item will have 5-point Likert scale to measure respondents' level of agreement with the item. For example, an item could be "My organization's mission aligns with the vision of this coalition." The respondent would then respond by selecting one of the following five categories: Strongly disagree, Disagree, Neither agree nor disagree, Agree, Strongly agree. For the purposes of quantifying responses to these items, they will be scored 1-to-5 from strongly disagree-to-strongly agree respectively.

In order to summarize organizational members' motives for committing to a physical activity coalition, means and standard deviations will be calculated for all items within each proposed construct. Hence there will be a mean score and standard deviation for strategic alignment, organizational alignment, providing input, seminal event, and cost/benefit ratio. Responses will be stratified by the level at which the coalition operates; national, state, or local.

In order to summarize organizational members' perceptions about how successful their coalition's level of success, means and standard deviations will be calculated for items representing the two constructs for perceived coalition success: satisfaction with the coalition, and coalition outcome efficacy. Based upon observing the distribution of the data for these two constructs, two categories "high perceived coalition success" and "low perceived coalition success" will be created. Subsequently an ANOVA with multiple comparisons will be conducted to determine whether or not there differences

exist between high and low categories of coalition success by organizational members' motives for joining a coalition. SAS 9.2 Proc Anova will be used to carry out this portion of the analysis.

Table 6.1. Relationship Between Partner Involvement Constructs and Coalition Outcomes [107]

	Satisfaction with coalition	Coalition outcome efficacy
Member sense of ownership	0.60	0.60
Member participation costs	-0.65	-0.65
Member participation benefits	0.42	0.42

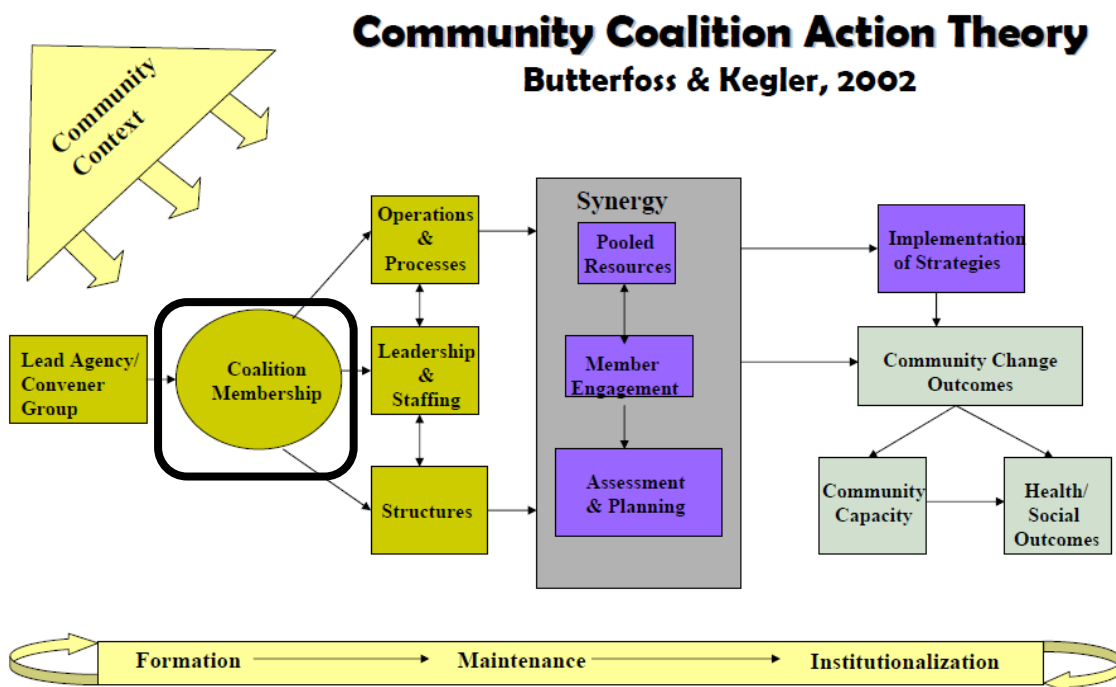


Figure 6.1. Butterfoss and Kegler's Community Coalition Action Theory [16]

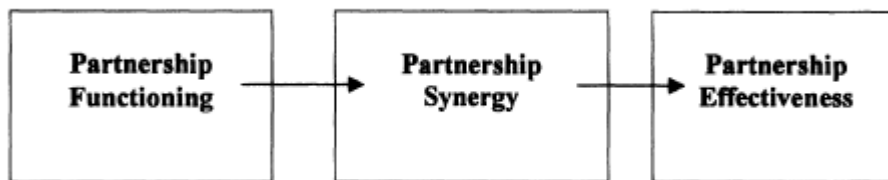


TABLE 2
Determinants of Partnership Synergy

Resources	<ul style="list-style-type: none"> • Money • Space, equipment, goods • Skills and expertise • Information • Connections to people, organizations, groups • Endorsements • Convening power
Partner characteristics	<ul style="list-style-type: none"> • Heterogeneity • Level of involvement
Relationships among partners	<ul style="list-style-type: none"> • Trust • Respect • Conflict • Power differentials
Partnership characteristics	<ul style="list-style-type: none"> • Leadership • Administration and management • Governance • Efficiency
External environment	<ul style="list-style-type: none"> • Community characteristics • Public and organizational policies

Figure 6.2. Lasker's Model of Partnership Synergy [11]

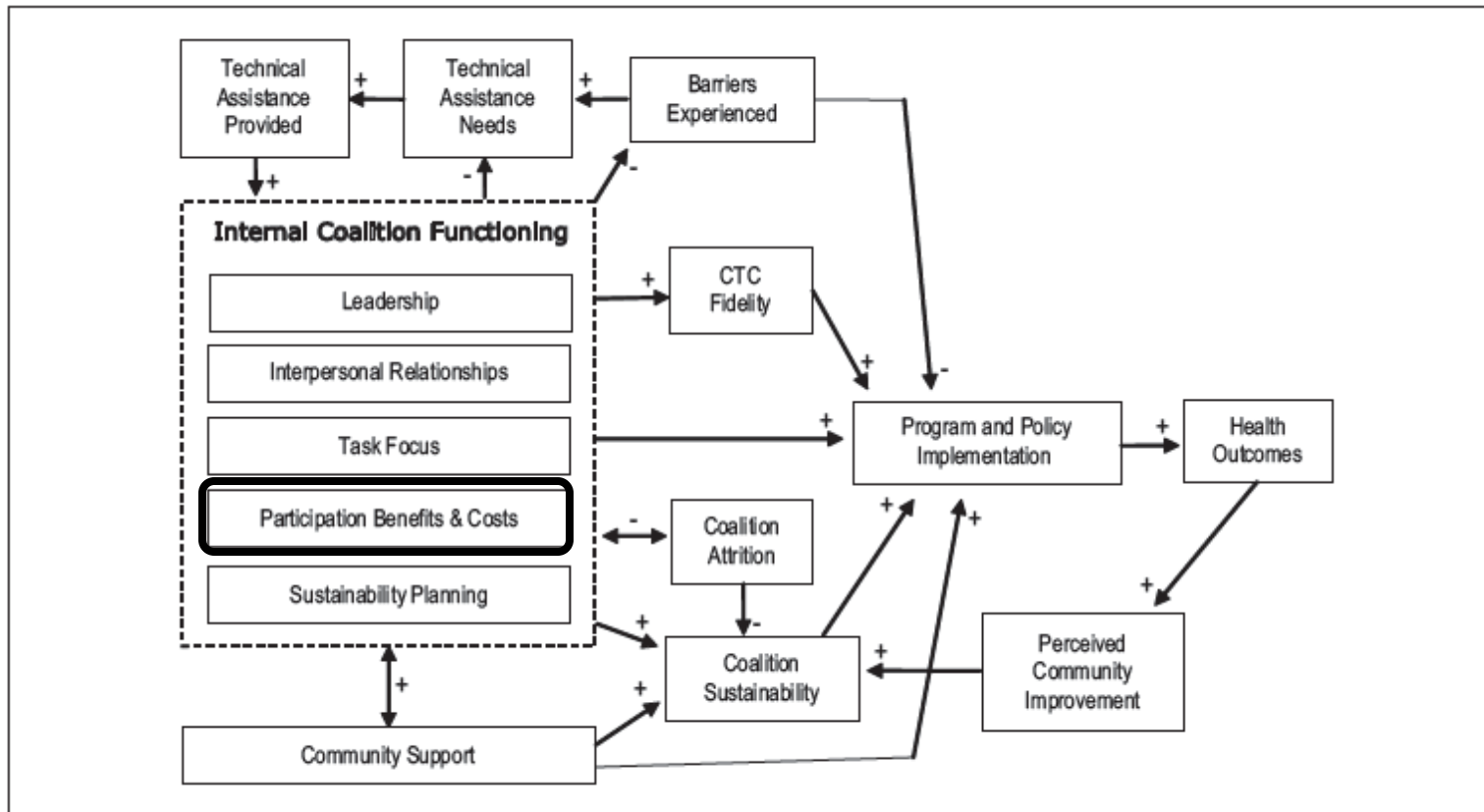
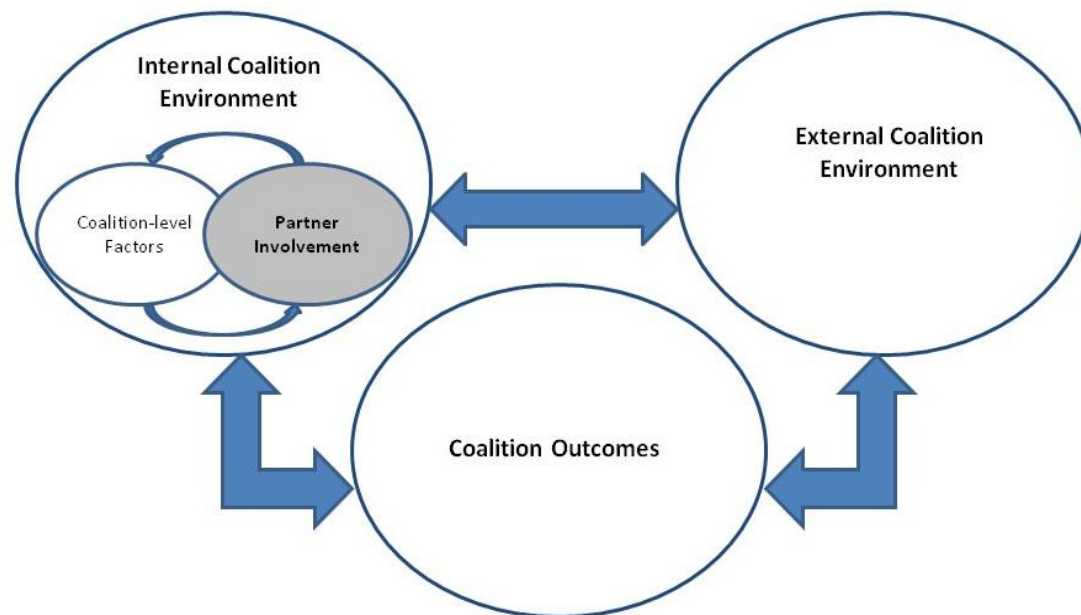


Figure 6.3. Brown et al.'s Model of Coalition Functioning [110]



Internal Coalition Environment			External Coalition Environment	Coalition Outcomes	
Partner Involvement:	Coalition-level Factors:			Proximal	Distal
Commitment	Member diversity	Interpersonal relationships	Community Characteristics	Coalition Sustainability	Policy and Environmental Change
Satisfaction	Leadership	Length of time in partnership	National/local policies and political governance	Community Capacity	Health Outcomes
Alignment	Resources	Power differentials	Community Capacity	Empowerment	
Expectations	Conflict resolution	Congruence of core values	Community Support		
Benefits/Costs	Skills and expertise	Member participation			
Motivation	Task Focus	Member benefits/costs			
	Synergy	Member commitment			
	Member recruitment	Member retention			

Figure 6.4. Theoretical Framework for Partner Involvement in Physical Activity Coalitions

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APPENDIX A

PROTOCOL AND INTERVIEW GUIDE FOR STUDY 1



National Physical Activity Plan: Protocol and Interview Guide for Organizational Partner

Evaluation

Background:

- NPAP released in May 2010
- Evaluation of NPAP critical, and missing from PA Plans from other countries
 - Evaluation of *Organizational Partners* to become 4th element
 - What is an “Organizational Partner?”
 - An organization (e.g. American Heart Assoc., YMCA of the USA) that committed to development and launch of the NPAP
 - Contributed Funds (typically \$10,000)
 - Placed rep from organization on the NPAP

Coordinating Committee

Purpose:

- To understand the meaning of why partner organizations chose to become involved in the NPAP
- To understand the process by which organizations made the decision to become Partners in the NPAP
 - Who was involved in the decision making process?
 - What did the process look like?
 - How similar or dissimilar was this process to other strategic decisions?
- To determine what actions each partner organization has taken since the NPAP was released in May, 2010.
 - What has the organization done to promote the NPAP?
 - What has the organization done to implement or advance the NPAP?
- To determine the extent to which the actions taken by an organizational partner align with the strategic objectives/goals of that organizational partner.
- To understand ways in which the partner organizations have been impacted through involvement in the NPAP
- To understand the role each organization sees itself playing with the NPAP over the next 3 years.
- Conduct a network analysis of the Organizational Partners.
 - How often each partner organization interacts with other Organizational Partners
 - The nature of the relationship between each partner organization and all other Organizational Partners.

Advantages:

- Participants are the individuals selected by the partner organization to serve on the NPAP's Coordinating Committee
- Includes organizations from government, non-government, for profit, and not for profit
- May provide insight into the relative importance of the NPAP's relationship to a partner's strategic plan, and how that might impact a partner's level of commitment to the NPAP.
- Fills a gap in the data already being collected on other aspects of the NPAP
 - NSPAPPH survey
 - State Case Studies (WV, TX)
 - Implementation Sector Reports

Participants to be interviewed:

- Start with the member of the Coordinating Committee representing each Organizational Partner

- Active Living Research
- American Academy of Pediatrics
- AAHPERD
- AACVPR
- American Cancer Society
- ACSM
- American Diabetes Assoc
- American Dietetic Assoc

- American Heart Assoc
- American Physical Therapy Assoc
- American Medical Assoc
- CDC
- National Academy of Sports Medicine
- National Athletic Trainers Assoc
- National Coalition for Promoting PA
- Road Runners Club of America
- USDA
- YMCA of the USA

Snowball sampling - Additional person(s) from within each organization may be identified as being able to contribute additional information for that organization.

- At the conclusion of the interview, the participant will be asked if they believe there are others within their organization that could provide a unique perspective from their own.
- Special Instances
 - In some instances (American Heart Association and AACVPR), the Coordinating Committee member being interviewed may not have been the one serving on the Coordinating Committee at the time the organization was deciding whether or not to join. In these cases, attempts should be made to interview both Coordinating Committee members.

- In another instance (American Academy of Pediatrics) the Coordinating Committee member has been inactive; however every attempt will be made to interview this individual.
- And in one final instance (AARP) the initial Coordinating Committee member was replaced and the AARP decided not to continue on as an Organizational Partner. In this instance, every attempt should be made to interview both of these individuals.

Timeline:

- Mid-January 2012: Conduct initial interviews (3 interviews) and provide feedback
 - Consider altering interview guide if necessary
- January-March: Wash U. conducts remaining interviews (15-20).
- January-March: Interviews Transcribed verbatim.
- January-March: Develop coding guide collaboratively based on first 5 interviews
- January-March: Gather relevant documents for content analysis
 - Strategic Plans
 - Annual Reports
 - Policy Documents
- April: As a group come up with a plan for each site to code interviews and summarize themes
- May-July: Sites (could involve more than Wash U and USC) to code data using NVivo 9.
 - Initial code book developed after coding of 3-4 transcripts
 - Codes then applied to remaining transcripts

- Need for new codes to be discussed
- August-October: U Hawaii works with USC to perform Network Analysis
- August-October: Work to summarize themes across organizations; each site to complete a summary of their “organizations” results using a shared template across sites; USC to create an overall summary and perform any further analysis.
- October 30: project ends

Recruitment Process

USC to provide a list of key informants. Contact each key informant no more than 3 times without response, according to the following protocol. If at any point you receive a response, then schedule a time to conduct the interview, and send a confirmation email prior to the scheduled interview.

Contact 1: Send each potential key informant an email or phone call following the recruitment email script.

Contact 2: If no response after contact 1, then follow up with either an email or phone call (leave voicemail) after one week.

Contact 3: If no response after contact 2, then follow up with either an email or phone call (leave voicemail) after one week.

If no response after contact 3, then stop recruitment of key informant.

Introductory Email to Send to Contacts

Dear <name>,

My name is <insert your name> and I am a <title> at the <institution name>. I am interviewing Coordinating Committee members from the National Physical Activity Plan (NPAP) as part of the on-going effort to evaluate the NPAP. The interviews are on behalf of the Physical Activity Policy Research Network, funded by the Centers for Disease Control and Prevention.

I would greatly appreciate the opportunity to learn more about your organization's experience with development, launch, and implementation of the NPAP. Your participation will include a 30-40 minute telephone interview and the completion of an approximately 10 minute online survey. Can you please provide some dates and times over the next two weeks when you would be available to talk (please reply by email or phone <phone>)? Upon confirming your availability, I will send you a fact sheet with more information, the telephone interview questions and a link to the online survey in advance of our conversation.

Thanks in advance for your consideration, and I look forward to hearing from you.

Sincerely,

<name>, on behalf of the Physical Activity Policy Research Network

Confirmation Email to Send to Contacts

Dear <name>,

Thank you for agreeing to participate in an interview about your organization's experience with development, launch, and implementation of the National Physical Activity Plan.

I have attached an information sheet and the interview questions for your review prior to our call on X date at X time. I have also included the link to a short online survey to be completed prior to our call. I expect this survey to take less than 10 minutes of your time. Please contact me if you have any questions or concerns.

Thanks in advance for your participation and I look forward to speaking with you soon.

Sincerely,

<name>, on behalf of the Physical Activity Policy Research Network

<Qualtrics survey link>

Recruitment Telephone Script

Hello, _____ (say name of the person you are calling), my name is <insert your name> and I am a <title> at the <institution name>. I am interviewing Coordinating Committee members from the National Physical Activity Plan (NPAP) as part of the on-going effort to evaluate the NPAP. The interviews are on behalf of the Physical Activity Policy Research Network, funded by the Centers for Disease Control and Prevention. I am calling to ask if you might be willing to share your organization's experience with the development, launch, and implementation of the NPAP, by participating in a 30-40 minute telephone meeting and a 10 minute online survey.

If yes> Great. Is there a day and time over the next couple of weeks when you would be available for a telephone interview?

Interview Date: _____

Interview Time: _____

If no> Is there someone else you would recommend I speak to in your organization that be able to contribute information for about your organization's experience with the NPAP?

Name of Contact: _____

Email: _____

Phone: _____

I will send you a fact sheet with more information, the telephone interview questions, and the link to the online survey in advance of our conversation. Thanks in advance for your participation, and I look forward to speaking with you on _____ <date> at _____ <time>.

<End Call>

Pre-Interview Reminders:

- (1) 5 days prior to the interview date, please e-mail the participant with the following:
 - a. Confirmation of date and time of interview
 - b. Attachment of the Fact Sheet
 - c. A link to the Qualtrics Survey for Network Analysis

- i. Let them know the survey will take roughly 10 minutes to complete
 - ii. Please ask them to complete the survey prior to the interview
- (2) 24 hours prior to interview send another confirmation e-mail to participant with reminder to complete survey if not already completed.
- (3) The interviews can be conducted over the phone or via Skype.

Notes on the Interviews

- If acronyms are mentioned during the interview, please have the respondent clarify what they stand for.
- Try to summarize long responses for the respondent.
- If they answer “don’t know” to a question, please probe to find out if you should continue the questions as if they answered “yes” or “no”, or to find out if another person within their organization would know.

What to Have Handy for the Interview

Interview guide and information sheet

Paper and pen (to take notes, especially if they refuse to be recorded)

Two (if you have them) charged electronic recorders (one as a back-up in case one fails)

Extra batteries for the recorders

This is a semi-structured interview

Please use the interview guide as just that, a guide. Feel free to ask probing questions that may not be on the interview guide but you feel would allow for a more in-depth understanding of the main question.

Questions to Answer Prior to Interview in Interview Field Note

Date of interview

Start time of interview

Name of interviewee

Length of time in the position

Whether the interview was done over the phone or via Skype

Assignment of ID – to use to label the recorded transcript so that names are not included in the transcription

ID assignment: two number code of the organization (see Organization Code Sheet), followed by number: example the first person interviewed in Organization 1 would be 011

After the Interview is Over

Note End time of interview

Put electronic file of recording secure file at Wash U. place a copy in dropbox. If typed notes were taken because of refusal to be recorded, put electronic word file in secured file at Wash U., place a copy in dropbox and e-mail copy to Dan B.

Interview Questions (probes in *italic font*)

Consent

Thank you for taking the time to speak with me today. I estimate that the conversation will take roughly 30 minutes. Do you have any questions before we begin?

I will be digitally recording the interview. Is this acceptable to you?

If no: take notes

If yes: start recorder

This is [interviewer's name], conducting an interview for the Physical Activity Policy Research Network's National Physical Activity Plan. I am interviewing [name of interviewee] from [name of organization].

If yes: start recorder

Survey Reminder:

Have you taken the opportunity to complete our brief on-line survey?

If Yes: Continue to "About Interviewee"

If No: Remind interviewee to complete survey within 24 hours and re-e-mail link to survey upon completion of interview

About Interviewee:

What is your job title within (Organization name)?

How long have you been with (Organization name)?

1.) Main question: Please tell me how (Organization name) decided to become a member of the National Physical Activity Plan's [The Plan's] Coordinating Committee?

Follow up question: Within your organization, what do you think were the key factors that influenced (organization name's) decision to join the Coordinating Committee?

Probes: Please describe anything more I should know about the decision to join the Coordinating Committee?

Who was involved in the process?

How was the decision making process used for The Plan,
similar or dissimilar to other strategic decisions made by
(organization's name)?

2.) Main question: What were (Organization name's) expectations for being
involved in development of the Plan?

Follow up question: Please describe how (Organization name) arrived at
those expectations?

Probes: Please tell me anything else about (Organization's name)
expectations for its involvement in developing the Plan that
you feel is important?

To what extent were these expectations met? Please
explain.

3.) Main question: Since the National PA Plan was released, please tell me about why (Organization's name) has chosen to stay/not stay involved in the Plan?

Probe: How are these decisions made?

4.) Main Question: What actions has your organization taken as the result of its membership on the Coordinating Committee?

Probes: What, if anything has (Organization's name) done to promote the NPAP?

What, if anything has (Organization's name) done to implement or advance the NPAP?

Please describe any other actions that (Organization's name) has taken as the results of its membership on the Coordinating Committee?

5.) Main Question: What, if any affect has being involved in the National Physical Activity Plan had on (Organization's name)?

Probes: Please describe ways, if any that (Organization's name) strategic plan, goals or objectives been changed to reflect any aspect of the National PA Plan?

Please describe ways, if any that being involved in the NPAP had any negative consequences for (Organization's name)? If so, please explain.

6.) Main Question: In the next 1-3 years, what actions might your organization take as the result of its membership on the Coordinating Committee?

Probes: What might (Organization's name) do to promote the NPAP?

What might (Organization's name) do to implement or advance the NPAP?

Please describe any other actions that (Organization's name) might take as the results of its membership on the Coordinating Committee?

Wrap-up Questions: I know that we've covered a lot of ground, and I thank you for your thoughtful comments. Is there anything else about your organization's role with the National Physical Activity Plan that we did not cover and you feel I should know about?

Is there anyone else within your organization that you feel would have important insights regarding the topics we covered today?)

If "No" move to closing

If "Yes" ask for the name and contact information for the individual(s).

Closing

Thank you very much for your time today. If later on we have questions about some of your responses, would it be okay to contact you again for clarification?

Are there any other individuals within (Organization's name) that you feel would have important insights on the questions I've asked you today? If yes, who? Could you provide me with her/his contact information?

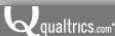
Thanks again.

Stop recording.

APPENDIX B

MIPAC SURVEY FROM QUALTRICS.COM

Qualtrics Survey Software

**qualtrics.com**

Intro

Coalitions focused on physical activity have become increasingly common across the United States. These coalitions may play important roles in efforts to increase population levels of physical activity. A research team at the University of South Carolina (USC) has developed the following survey to gain a better understanding of how physical activity coalitions function. Specifically, our goal is to help improve coalition functioning by better understanding the relationship between physical activity coalitions and their members.

Completing this survey should take you about 20 minutes or less. We sincerely thank you for your contribution to this research and your dedication to the physical activity field. If at any time during this study you decide you don't want to continue, you may stop. Some repetition in the questions helps us assess your answers accurately. There are NO trick questions here. At the end of the survey, **you may enter an email address in the space provided to be entered into random drawing for one of five \$100 Amazon gift cards.** If you don't want to provide an email address, you don't have to.

The federal government has laws that protect research participants' confidentiality. That's why your responses will never be connected to your name, and any connection to your email address available through this survey hosting site (Qualtrics.com) will be deleted as soon as all data have been collected. By proceeding, you are indicating that you have read this statement and agree to participate in this study. Your participation is voluntary.

If you have questions concerning your rights as a research subject, you may direct them to Thomas Coggins, Director of USC Office of Research Compliance (803) 777-7095, tcoggins@mailbox.sc.edu

Definition of a physical activity coalition: For the purposes of this survey, a physical activity coalition is defined as a formal or informal organization, collaborative, partnership, or group that exists for the purpose of increasing physical activity in a population or segment of a population.

Are you involved with a physical activity coalition at the local, state, or national level?

☒ Yes

☐ No

Definitions of a physical activity coalition member: Physical activity coalitions are often comprised of organizations, such as non-profits, local businesses, or government organizations. Those organizations then typically appoint an individual or individuals to represent that organization's interests to the coalition. For the purpose of this survey, an individual who represents the interests of an organization is called an **organizational member** of a coalition. Additionally, physical activity coalitions may have **individual members**, who are involved in the activities of the coalition, but do not represent the interests of any organizational member.

Are you an Organizational member of this coalition?

☒ Yes

☐ No

Organizational Demographic Questions

What is the name of the physical activity coalition your organization is a member of?

At what level is this physical activity coalition organized (check all that apply)?

☒ National/Federal

[https://s.qualtrics.com/ControlPanel/PopUp.php?PopType=SurveyPrintPreview&WID=_blank\[2/14/2013 1:43:48 PM\]](https://s.qualtrics.com/ControlPanel/PopUp.php?PopType=SurveyPrintPreview&WID=_blank[2/14/2013 1:43:48 PM])

- ☒ State
- ☒ Local/Municipal
- ☒ Not sure

In what state is this physical activity coalition located?

In what city/town is this physical activity coalition organized?

How would you classify the area in which this coalition is working (mark all that apply)?

- ☒ Urban
- ☒ Suburban
- ☒ Rural

In your best estimate, how many organizational members are there in this coalition?

- ☒ 1-10 organizational members
- ☐ 11-30 organizational members
- ☐ 31-50 organizational members
- ☐ 51 or more organizational members
- ☐ Don't know

In what settings is this coalition working (mark all that apply)?

- ☒ Built environment
- ☒ Schools
- ☒ Parks and Recreation
- ☒ Healthcare
- ☒ Workplace
- ☒ Public Health
- ☒ Government
- ☒ Faith Based
- ☒ Other

For how long (in years) has your organization been a member of this coalition?

What types of initiatives is this coalition working on (mark all that apply)?

Please provide at least one example for each initiative marked.

- ☒ Advocacy to promote active living
- ☐ Changes to formation of policy

-
- ☒ Engaging/partnering with appointed/elected officials
- ☒ Expanding network of partners
- ☒ Identification of community needs
- ☒ Expanding existing programs
- ☒ Developing new programs
- ☒ Strategic planning
- ☒ Other

What is the name of the organization you represent on this coalition?

For how long have you been affiliated with the organization you represent on this coalition?

What is your current role within the organization you represent on this coalition?

- ☒ Employee
- ☐ Volunteer
- ☐ Other

From the list below, what best describes the type of organization you represent?

- ☒ For-profit
- ☐ Non-profit
- ☐ Government agency
- ☐ Educational institution
- ☐ Other

What sector of society best describes where your organization is primarily working?

- ☒ Education
- ☐ Healthcare
- ☐ Parks, Recreation, Fitness, Sport
- ☐ Transportation, Community Design, Urban Planning
- ☐ Public Health
- ☐ Other

How many employees are there in the organization you represent?

- ☒ 0-5
☐ 6-20
☐ 21-50
☐ 51-100
☐ More than 100
☐ Don't know

Organizational Content Questions

In the questions that follow, you will be asked how strongly you agree or disagree with the statement provided. Please think carefully about each statement and provide the most accurate answer possible.

The strategic interests of my organization align with the purpose of this coalition.

- | | | | | |
|----------------------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
| <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

My organization feels that the product of this coalition's work is highly important.

- | | | | | |
|----------------------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
| <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

My organization's membership on this coalition has provided more positives than negatives.

- | | | | | |
|----------------------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
| <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

My organization provides knowledge to this coalition.

- | | | | | |
|----------------------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
| <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

My organization is committed to this coalition because there is a particular initiative this coalition is working on that is vital to the physical activity field.

- | | | | | |
|----------------------------------|-----------------------|----------------------------|-----------------------|-----------------------|
| Strongly Disagree | Disagree | Neither Agree nor Disagree | Agree | Strongly Agree |
| <input checked="" type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Any negatives that have resulted from my organization's involvement in this coalition have been outweighed by the positives.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with the accomplishments of this coalition.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
This coalition benefits from my organization's expertise.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization has been able to do things more efficiently as the result of working with other organizations that are members of this coalition.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The efforts of this coalition will eventually result in increased population levels of physical activity.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The organization I represent and this coalition are trying to achieve the same things.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization has remained a member of this coalition because the advantages of membership outweigh the disadvantages.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization has expertise that is useful for this coalition.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My organization is a member of this coalition because there are highly visible organizations that are also members of this coalition.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Being a member of this coalition has allowed my organization to strengthen existing relationships with other organizations.				
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My organization's mission aligns with the vision of this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My organization has skills that benefit this coalition's activities.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My organization is a member of this coalition because we are working to achieve the same objectives.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This coalition has achieved the things it set out to achieve.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Being a member of this coalition has allowed my organization to build important new relationships with other organizations.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Working with the other organizations that are on this coalition has been beneficial to my organization.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I believe that physical activity levels will increase in our community because of the work of this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My organization and this coalition are working to achieve similar goals.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This coalition is doing work on a specific project that my organization feels is highly important.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My organization has gained more than it has lost through its membership on this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This coalition is making significant progress towards accomplishing its goals.

Neither Agree nor

Strongly Disagree Disagree Disagree Agree Strongly Agree

☐ ☐ ☐ ☐ ☐

My organization is a member of this coalition because the coalition has other well-respected organizations as members.

Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

☐ ☐ ☐ ☐ ☐

I am certain that the work of this coalition will result in increased physical activity levels across the community.

Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

☐ ☐ ☐ ☐ ☐

My organization and this coalition share a similar vision.

Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

☐ ☐ ☐ ☐ ☐

The mission of my organization lines up with the mission of this coalition.

Strongly Disagree Disagree Neither Agree nor Disagree Agree Strongly Agree

☐ ☐ ☐ ☐ ☐

This concludes the survey for organizational members of a physical activity coalition. Thank you kindly for your participation. If you wish to be entered into a drawing for one of five \$100 gift cards from Amazon.com, please provide us with your e-mail address below. This e-mail address will not be used for any purposes other than providing you with the gift card, should your e-mail address be one of the five drawn. Otherwise, check "no thank you"

- ☒ No thank you I do not want to submit my e-mail address
- ☐ Yes, please submit my e-mail address below for the drawing.

Individual Demographic Questions

What is the name of the physical activity coalition you are a member of?

At what level is this physical activity coalition organized (check all that apply)?

- ☒ National/Federal
- ☒ State
- ☒ Local/Municipal
- ☒ Not sure

In what state is this physical activity coalition located?

In what city/town is this physical activity coalition organized?

How would you classify the area in which this coalition is working (mark all that apply)?

- ☒ Urban
- ☒ Suburban
- ☒ Rural

In your best estimate, how many members are there in this coalition?

- ☒ 1-10 members
- ☐ 11-30 members
- ☐ 31-50 members
- ☐ 51 or more members
- ☐ Don't know

What types of initiatives in this coalition working on (mark all that apply)?

Please also provide at least one example for each initiative marked.

- ☒ Advocacy to promote active living
- ☒ Changes to/formation of policy
- ☒ engaging/partnering with appointed/elected officials
- ☒ Expanding network of partners
- ☒ Identification of community needs
- ☒ Expanding existing programs
- ☒ Developing new programs
- ☒ Strategic planning
- ☒ Other

In what settings is this coalition working (mark all that apply)?

- ☒ Built environment
- ☒ Schools
- ☒ Parks and Recreation
- ☒ Healthcare
- ☒ Workplace
- ☒ Public Health
- ☒ Government
- ☒ Faith-based
- ☒ Other

For how long (in years) have you been a member of this coalition?

Individual Content Questions

My personal interests align with the purpose of this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am able to lend expertise to this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My professional goals are in line with the goals of this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I feel that the product of this coalition's work is highly important.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Being a member of this coalition has allowed me to strengthen existing relationships with other individuals.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This coalition can benefit from my expertise.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have gained more than I have lost through my membership on this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My personal goals are in line with the goals of this coalition.

Strongly Disagree	Click to write Choice 2	Click to write Choice 3	Click to write Choice 4	Click to write Choice 5
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

This coalition is doing work on a specific project that I feel is highly important.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

My membership on this coalition has provided more positives than negatives.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I provide knowledge to this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Being a member of this coalition has allowed me to build important new relationships with other individuals.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I committed to this coalition because there is a particular initiative that this coalition is working on that is vital to the physical activity field.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I am a member of this coalition because there are highly visible individuals that are also members of this coalition.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I have committed to this coalition because the advantages of membership outweigh the disadvantages.

Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

there anything more you would like to tell us about why you are a member of this coalition?

This concludes the survey for individual members of a physical activity coalition. Thank you kindly for your participation. If you wish to be entered into a drawing for one of five \$100 gift cards from Amazon.com, please click on "yes" below and provide us with your e-mail address. This e-mail address will not be used for any purposes other than providing you with the gift card, should your e-mail address be one of the five drawn. If you do not wish to be entered into the drawing, please select "no" below.

☒ Yes, please include my in the drawing for a \$100 gift card with the e-mail below

☐ No, please do not include me in the drawing.

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